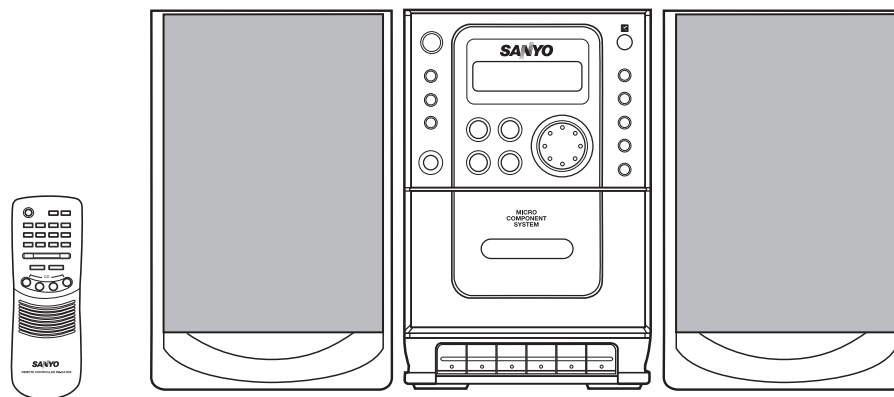


## Service Manual

## Micro Component System

## DC-DA1000 (XE)



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PRODUCT CODE No.  
129 648 02

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SP: This service manual consists of "DC-DA1000U/XE" (Main unit : 129 647 02) and "SX-DA1000/XE" (Speaker system : 165 064 02).

SPECIFICATIONS

**Tuner**  
Reception frequency ..... FM : 87.5 ~ 108 MHz  
AM : 522 ~ 1611kHz

**CD player**  
Channels ..... 2-channel stereo  
Sampling frequency ..... 44.1 kHz  
Pick-up ..... Optical 3-beam semiconductor laser  
Laser output ..... 0.6mW(Continuous wave max.)  
Wave length ..... 790 nm  
Wow and Flutter ..... Below measurable limits

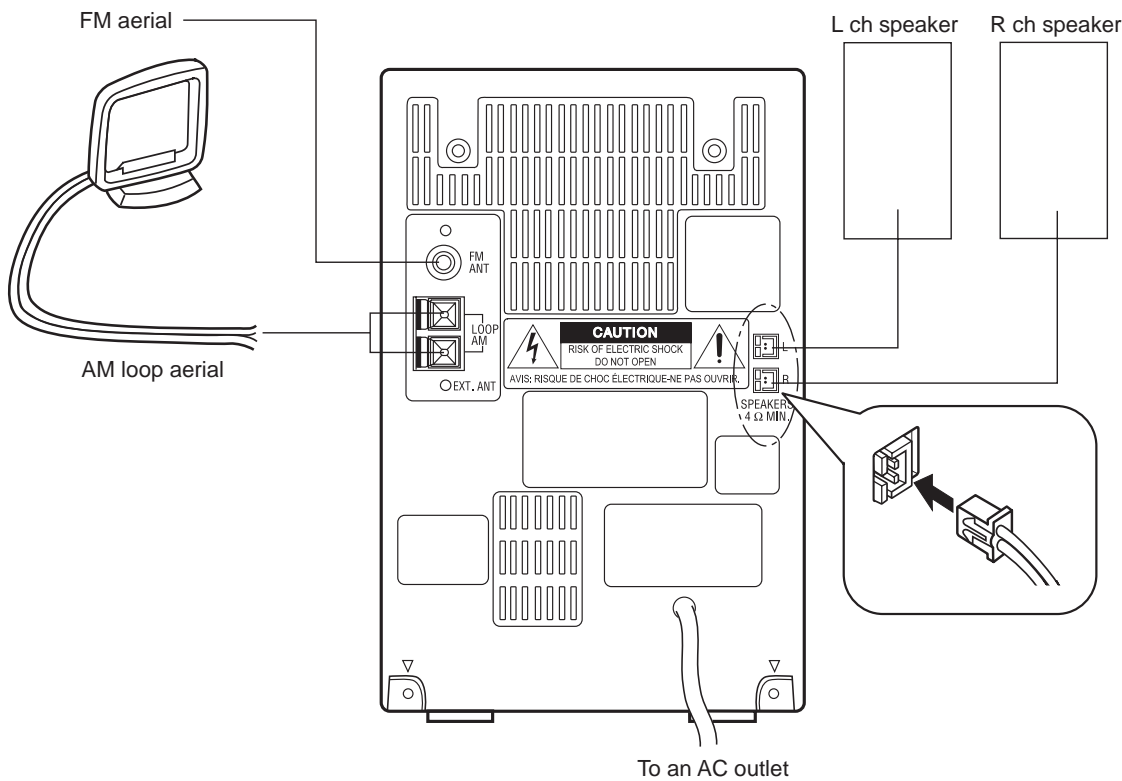
**Cassette deck section**  
Track system ..... 4-track, 2-channel stereo  
Frequency response ..... 80 Hz to 15 kHz  
Signal to noise ratio ..... 40 dB  
Wow and Flutter ..... 0.15% (WRMS)  
Fast forward / Rewind time .... Approx. 110 sec. (C-60)

**General**  
Output power ..... 4 W x 2  
(at 4 ohms, 10% distortion)  
Outputs ..... SPEAKERS : 4 ohms  
PHONES : 8 - 32 ohms  
Power requirements ..... AC 230V, 50Hz  
Power consumption ..... 18 W  
Dimensions (W x H x D) ..... Approx. 141 x 212 x 210 mm  
Weight ..... Approx. 2.2 kg

**Speaker system**  
Type ..... Full range bass reflex  
Unit used ..... 8 cm cone type  
Maximum  
power-handling capacity ..... 6 Watts (peak)  
Nominal impedance ..... 4 ohms  
Dimensions (W x H x D) ..... Approx. 141 x 210 x 173mm  
Weight ..... Approx. 1.1 kg (per speaker)

Specifications subject to change without notice.

SYSTEM CONNECTIONS



WHAT TO DO IF

- If the operation of the unit or display is not normal,
- 1. Disconnect the mains lead.
  - 2. Wait for at least 30 seconds.
  - 3. Connect the mains lead.
  - 4. Operate the unit.

CD PICK-UP MAINTENANCE

About pick-up (Optical lens) Cleaning

Clean a lens with swab of the cotton which moistened it with alcohol, cleaning paper or cleaning disc appointed.  
Specified cleaning disc : LC-1 (Part code : 645 026 1961 ..... manufactured by SANYO.)

Show a clean procedure in the following in reference by swab of cotton.

- 1. Cotton swab is wrapped with Cleaning paper.
- 2. Add the isopropyl alcohol.
- 3. Gently move the tip of cotton swab just like a draw a whirlpool from inside to outside on the surface of lens.

## LASER BEAM SAFETY PRECAUTION

- Pick-up that emits a laser beam is used in this CD player section.

### CAUTION :

THIS PRODUCT CONTAINS A LOW POWER LASER DEVICE, TO ENSURE CONTINUED SAFETY DO NOT REMOVE ANY COVERS OR ATTEMPT TO GAIN ACCESS TO THE INSIDE OF THE PRODUCT.  
REFER ALL SERVICING TO QUALIFIED PERSONNEL.

LASER OUTPUT ..... 0.6 mW Max. (CW)

WAVELENGTH ..... 790 nm

CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBYRDERE ER UDE AF FUNKTION, UNDGÅ UDSÆTTELSE FOR STRÅLING.

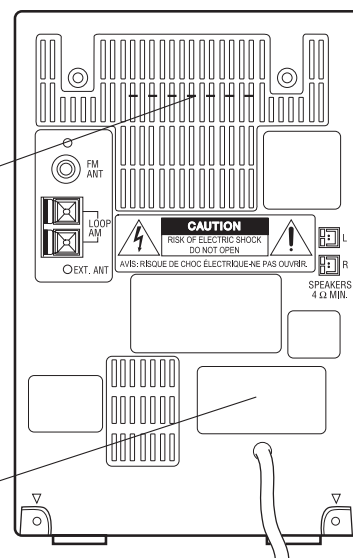
VARNING – OSYNLIG LASER STRÅLNING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.

VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.

VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.



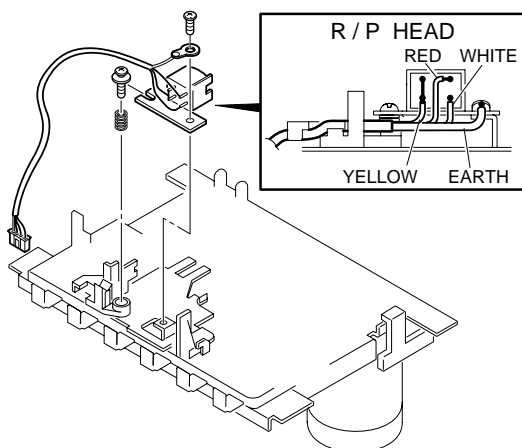
CLASS 1 LASER PRODUCT  
LUOKAN 1 LASERLAITE  
KLASS 1 LASERAPPARAT



## TAPE ADJUSTMENTS

### a. Replacing the head

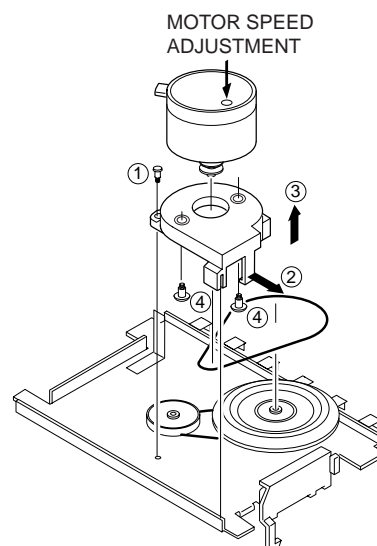
- After replacement, demagnetize the heads by using a degausser.
- Be sure to clean the heads before attempting to make any adjustments.
- Be sure both channels (1 and 2) are the same level. (Using a dual-channels oscilloscope).
- All wiring should be returned to the original position after work is completed.



### c. Adjusting motor speed

- Insert the test tape (MTT-111 or etc. 3,000 Hz).
- Press the PLAY button.
- Use a flat-tip screwdriver to turn the SVR to adjust so that the frequency counter becomes 3,000 Hz.
- Press the STOP button.

### d. Replacing the moto



### b. Adjusting head azimuth

- Load a test tape (VTT-738, etc. :10kHz) for azimuth adjustment.
- Press the PLAY button.
- Use a cross-tip screwdriver to turn the screw for normal azimuth adjustment so that the left and right outputs are maximized at the same phase during normal playback.
- Press the STOP button.

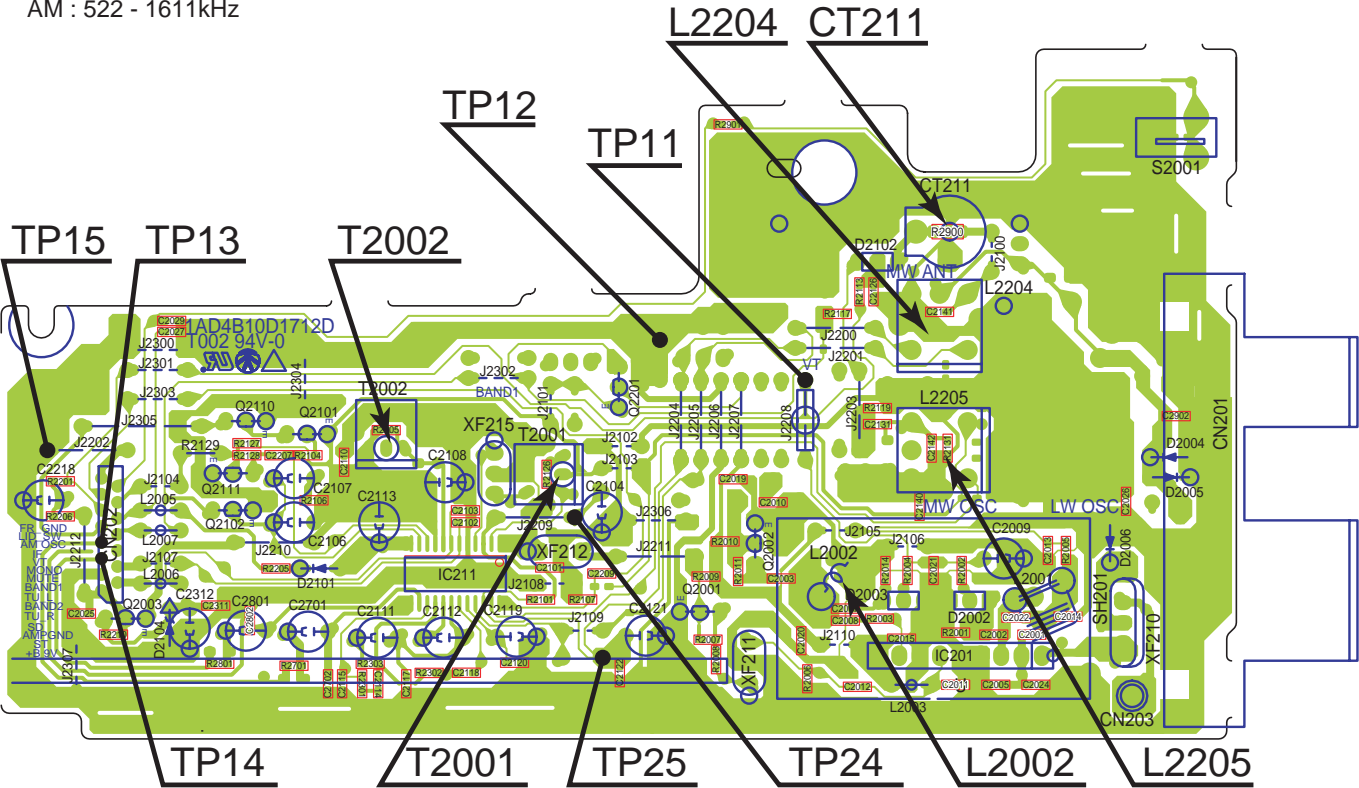
### e. Checking the mechanism torques

- Clean the head, capstan and pinch roller before making any measurement.

Measurement	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY : TW-2111A F.FWD/REW : TW-2231	PLAY : TW-2111A	Drive-power cassette TW-2412
PLAY	30 ~ 70gr.cm	1.0 ~ 6.0gr.cm	80 gr or more
F.FWD/REW	55 gr or more	-	-

TUNER ADJUSTMENTS

- Use a plastic screw driver for adjustments.
- MODE : ST (Stereo)
- Speaker impedance : 4 ohms
- TUNING
  - FM : 87.5 - 108MHz
  - AM : 522 - 1611kHz



Antenna : 75Ω unbalanced direct, Modulation : 1 kHz  
Dev. : ±22.5kHz(MONO), ±22.5kHz(MAIN), ±6.75kHz(PILOT)  
RF Level : dBuV EMF  
Output Level : about 30mV at TP13, TP14, TP15

1. FM

Step	Adjusting Circuit	Connection		SG Frequency	Adjustment	Remark
		Input	Output			
1	IF(0V) Adjustment	FM Antenna SG=66dBuV	Alignment voltage IC211 3-22pin(TP24,25) is 0.0±0.05V	98.0MHz	T2002	Alignment voltage IC211 3-22pin is 0.0±0.05V
2	Cover Voltage	---	Connect Digital DC voltmeter to	87.5MHz	L2002	1.00±0.05V
		---	TP11(H), TP12(E).	108.0MHz		5.50±0.50V Check Only

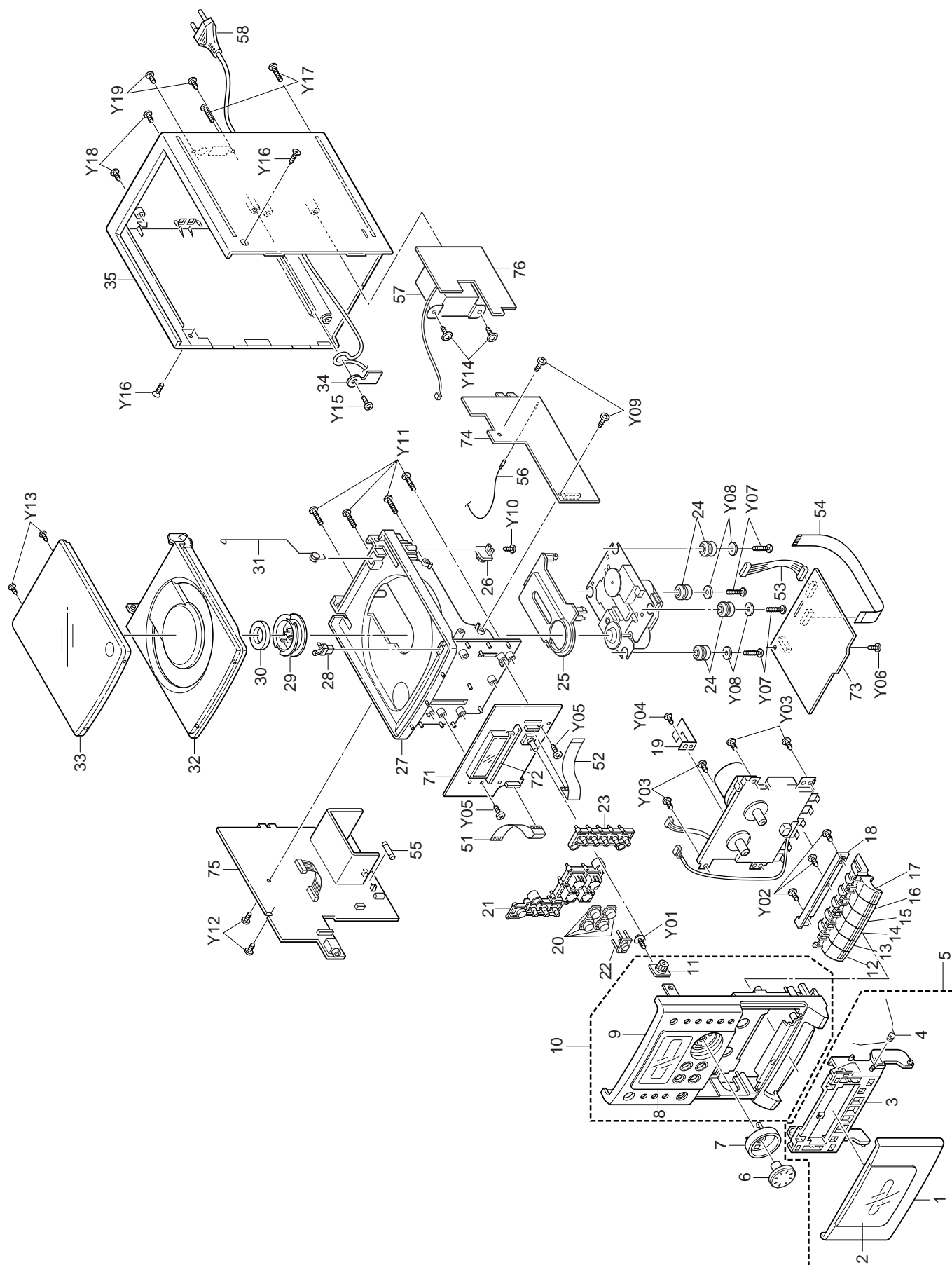
Anntena : IRE Loop(SG), Moduration : 1kHz 30%  
RF Level : dBuV EMF

2. AM

Output Level : about 30mV at TP13, TP14, TP15

Step	Adjusting Circuit	Connection		SG Frequency	Adjustment	Remark
		Input	Output			
1	IF Adjustment	Loop Ant	Connect Sweep generator to test point TP13(L), TP14(R) and TP15(E).	450kHz at 999kHz	T2001	Maximum
2	Cover Voltage	---	Connect Digital DC voltmeter to	522kHz	L2205	1.00±0.05V
		---	TP11(H) and TP12(E).	1611kHz		7.10±0.50V Check Only
3	Tracking	Loop Ant	Connect to VTVM point TP13(L), TP14(R) and TP15(E).	603kHz	L2204	Maximum
				1404kHz	CT211	

# EXPLODED VIEW (CABINET & CHASSIS)



## PARTS LIST

### PRODUCT SAFETY NOTICE

EACH PRECAUTION IN THIS MANUAL SHOULD BE FOLLOWED DURING SERVICING. COMPONENTS IDENTIFIED WITH THE IEC SYMBOL  $\Delta$  IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATED COMPONENTS IN WHICH SAFETY AND PERFORMANCE CAN BE OF SPECIAL SIGNIFICANCE. WHEN REPLACING A COMPONENT IDENTIFIED BY  $\Delta$ , USE ONLY THE REPLACEMENT PARTS DESIGNATED, OR PARTS WITH THE SAME RATINGS OF RESISTANCE, WATTAGE OR VOLTAGE THAT ARE DESIGNATED IN THE PARTS LIST IN THIS MANUAL. LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS MUST BE MADE TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE PRODUCT TO THE CUSTOMER.

**CAUTION :** Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.  
Regular type resistors are less than 1/4 W carbon type and 0 ohm chip resistors.  
Regular type capacitors are less than 50 V and less than 1000  $\mu$ F type of Ceramic type and Electrical type.

**N.S.P :** Not available as service parts.

### PACKING & ACCESSORIES

REF.NO.	PART NO.	DESCRIPTION
	614 326 6396	CARTON CASE
	614 325 2818	CUSHION,REAR
	614 325 2825	CUSHION,FRONT
	614 326 6433	INSTRUCTION MANUAL
	614 327 0607	INSTRUCTION SHEET,GREECE
or	645 005 1227	ASSY,ANTENA,LOOP
	645 046 8322	ASSY,ANTENA,LOOP
	645 057 4559	REMOCON,RB-DA1000
	614 325 5741	LID,BATTERY,SERVICE
	614 326 5955	ASSY,BOX,SPEAKER(L,R)

REF.NO.	PART NO.	DESCRIPTION
	411 021 3503	SPRING DECK REC
Y05	411 021 3503	SCR S-TPG BIN 3X10, FRONT PWB+MOUNT
Y06	411 021 3503	SCR S-TPG BIN 3X10, MTG CD+CD PCB
Y07	411 021 1806	SCR S-TPG BIN 2.6X10, MTGCD+MECHACD
Y08	411 092 0906	WASHER Z 2.6X10X0.5, MECHA CD+MOUNTING
Y09	411 021 3503	SCR S-TPG BIN 3X10, MTG CD+TUNER PCB
Y10	411 021 3503	SCR S-TPG BIN 3X10, MTG CD+ASSY,GEAR
Y11	411 021 4906	SCR S-TPG BIN 3X20, PANEL+MOUNTING
Y12	411 021 3503	SCR S-TPG BIN 3X10, MTG CD+AMP PCB
Y13	411 184 0906	SCR S-TPG BIN 2.3X10, WIN CD+LID CD
Y14	411 020 9100	SCR S-TPG BRZ+FLG 3X12, REAR+P-TRANS
Y15	411 021 3503	SCR S-TPG BIN 3X10, REAR+STOPPER
Y16	411 098 7800	SCR S-TPG FLT 3X12, PANEL+REAR+MOUNTING
Y17	411 021 4500	SCR S-TPG BIN 3X16,PANEL+REAR
Y18	411 021 3503	SCR S-TPG BIN 3X10, MTG CD+REAR
Y19	411 021 3404	SCR S-TPG BIN 3X10, C-REAR(ANT TERMINAL)

### CABINET & CHASSIS

REF.NO.	PART NO.	DESCRIPTION
1	614 325 2665	COVER,DECK
2	614 325 2672	DEC,WINDOW,DECK
3	614 325 2740	LID,CASSETTE
4	614 325 2788	SPRING,DOOR DECK
5	614 325 2603	ASSY,DOOR,DECK
6	614 325 2733	KNOB,VOLUME
7	614 325 2658	CAP,DECORATION
8	614 326 6259	DEC,WINDOW LCD
9	614 326 6334	PANEL,FRONT
10	614 326 6129	ASSY,PANEL,FRONT
11	614 309 7969	ASSY,GEAR,CASSETTE
12	614 326 1971	KNOB,DEC MECHA,REC
13	614 326 2589	KNOB,DEC MECHA,PLAY
14	614 326 2596	KNOB,DEC MECHA,REW
15	614 326 2602	KNOB,DEC MECHA,FFWD
16	614 326 2619	KNOB,DEC MECHA,STOP/EJECT
17	614 326 2626	KNOB,DEC MECHA,PAUSE
18	614 326 2633	MOUNTING,DEC KNOB
19	614 308 0534	SPRING,PLATE,REC
20	614 325 2719	DEC,WINDOW,BUTTON,1 KEY
21	614 325 2634	BUTTON,LEFT,8 KEYS
22	614 325 2702	DEC,WINDOW SENSOR
23	614 325 2627	BUTTON,RIGHT,5 KEYS
24	614 310 3899	SPACER,MECHA,CD+DA11
25	614 307 2072	COVER,PICK-UP
26	614 322 2132	ASSY,GEAR,LID,CD
27	614 325 2764	MOUNTING,CD
28	614 303 0263	LATCH,PUSH,CD DOOR LOCKING
29	614 307 8821	PULLEY
30	614 303 0256	LATCH,MAGNET
31	614 325 2795	SPRING,DOOR CD
32	614 325 2757	LID,CD
33	614 326 8581	DEC,WINDOW,CD
34	614 308 4914	STOPPER
35	614 326 8215	ASSY,CABINET,REAR

### ELECTRICAL PARTS

REF.NO.	PART NO.	DESCRIPTION
51	614 326 2770	FLEXIBLE FLAT CABLE, FRONT TO AMP
or	614 327 0812	FLEXIBLE FLAT CABLE, FRONT TO AMP
52	614 326 2787	FLEXIBLE FLAT CABLE, FRONT TO TUNER
or	614 327 0829	FLEXIBLE FLAT CABLE, FRONT TO TUNER
53	614 314 4779	ASSY,WIRE
or	614 309 8454	ASSY,WIRE
54	614 326 2794	FLEXIBLE FLAT CABLE,CD PICK UP
or	614 327 0836	FLEXIBLE FLAT CABLE,CD PICK UP
55	$\Delta$ 423 016 7908	FUSE 250V 2.5A
56	614 274 2013	CORD,ID CONNECTOR
57	$\Delta$ 645 051 8775	TRANS,POWER
58	$\Delta$ 645 016 9939	CORD,POWER-1.74MK

### FIXING PARTS

REF.NO.	PART NO.	DESCRIPTION
Y01	411 020 8905	SCR S-TPG BRZ+FLG 3X10,GEAR
Y02	411 021 3503	SCR S-TPG BIN 3X10, F-PANEL+MTG DECK KNOB
Y03	411 021 3503	SCR S-TPG BIN 3X10, PANEL+DECK MECHA
Y04	411 126 1404	SCR S-TPG BIN 2X4,

### FRONT P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
71	614 326 6815	ASSY,PWB,FRONT(Only Initial)
BR601	614 325 3730	HOLDER,LCD
C6200	403 373 7001	NP-ELECT 1U M 50V
or	403 259 0508	NP-ELECT 1U M 50V
CN601	645 059 0474	SOCKET,FPC 14P,FRONT-AMP
CN602	614 016 8464	PLUG,FRONT-LED



## PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
CN603	645 059 0481	SOCKET,FPC 15P,FRONT-TU
D6901	407 012 4406	DIODE 1SS133
D6902	407 012 4406	DIODE 1SS133
IC601	409 546 0701	IC LC72338-9B55,MICON
L6900	645 001 4550	INDUCTOR,10U K
L6901	645 002 1459	INDUCTOR,22U K
LCD60	645 057 4542	LCD
LS601	614 309 4180	DEC,SHEET,LCD,DEC_LCD_SHEET
Q6200	405 017 9709	TR 2SC3330-U
or	405 017 9600	TR 2SC3330-T
or	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 143 8706	TR KTC3199-GR
Q6201	405 017 9709	TR 2SC3330-U
or	405 017 9600	TR 2SC3330-T
or	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 143 8706	TR KTC3199-GR
S6001	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6002	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH 1P-1T
or	645 048 3820	SWITCH,PUSH
S6003	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6004	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6006	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
S6007	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6008	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6009	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6010	614 220 5471	SWITCH,TACT
or	614 240 1002	SWITCH,TACT
or	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
S6011	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6012	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6013	645 048 3820	SWITCH,PUSH
or	645 006 5958	SWITCH,PUSH 1P-1T
or	614 240 1002	SWITCH,TACT
or	614 220 5471	SWITCH,TACT
S6500	645 057 4535	SWITCH,ROTARY(ENCODER)
SE601	407 220 6803	PHOTO DIODE SPS-444-1-G1
X6001	645 052 6206	OSC,CRYSTAL 4.5MHZ

## LED P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
72	614 325 4751	ASSY,PWB,LED(Only Initial)
D6951	408 049 3707	LED SLP-3G118C51HAB-T1,LED
D6952	408 049 3707	LED SLP-3G118C51HAB-T1,LED
D6953	408 049 3707	LED SLP-3G118C51HAB-T1,LED
D6954	408 049 3707	LED SLP-3G118C51HAB-T1,LED
D6955	408 049 3707	LED SLP-3G118C51HAB-T1,LED

## CD P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
73	614 325 4720	ASSY,PWB,CD(Only Initial)
CN111	645 059 0498	SOCKET,FPC 16P
CN113	645 005 8127	PLUG,6P
or	614 310 2472	PLUG,6P
CN122	614 310 2496	PLUG,8P
or	645 005 8134	PLUG,8P
D1401	407 012 4406	DIODE 1SS133
D1402	407 012 4406	DIODE 1SS133
D1403	407 012 4406	DIODE 1SS133
D1404	407 099 5204	ZENER DIODE MTZJ5.1B
D1410	△407 098 3300	DIODE RL153-BF-S2
IC101	409 503 5701	IC LA9242M-MPB
IC102	409 539 9704	IC LC78629E
IC103	△409 486 8706	IC MM1469XH
L1451	645 001 4550	INDUCTOR,10U K
PR140	△645 014 2499	PROTECTOR,0.4A 125V
Q1301	405 008 6809	TR 2SB808-F-SPA
or	405 008 7202	TR 2SB810-E
or	405 008 7301	TR 2SB810-F
Q1401	△405 141 3604	TR KTA1273-Y
or	△405 009 5207	TR 2SB927-S
or	△405 009 5306	TR 2SB927-T
X1451	614 231 2667	RESONATOR
or	645 057 1145	OSC,CERAMIC 16.93MHZ

## TUNER P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
74	614 326 6822	ASSY,PWB,TUNER(Only Initial)
CN201	645 038 7715	TERMINAL
or	645 025 4703	TERMINAL,ANTENNA
CN202	645 059 0481	SOCKET,FPC 15P
CN203	614 221 8273	TERMINAL
CT211	645 032 5663	TRIMMER,7PF
D2002	407 157 8109	VARIABLE DI SVC211-B
D2003	407 157 8109	VARIABLE DI SVC211-B
D2004	407 012 4406	DIODE 1SS133
D2005	407 012 4406	DIODE 1SS133
D2006	407 012 4406	DIODE 1SS133
D2101	407 012 4406	DIODE 1SS133
D2102	407 105 1602	VARIABLE DI SVC342M-V
or	407 105 1305	VARIABLE DI SVC342L-V
D2104	407 099 5303	ZENER DIODE MTZJ5.6B
IC201	409 016 0200	IC LA1186N-AUDIO
IC211	409 474 3201	IC LA1844ML
L2001	645 040 2753	INDUCTOR,AIR —
L2002	645 040 2746	COIL,AIR —
L2003	645 002 1534	INDUCTOR,8.2U K
L2005	645 002 1459	INDUCTOR,22U K
L2006	645 002 1459	INDUCTOR,22U K
L2007	645 002 1459	INDUCTOR,22U K
L2204	645 037 2377	TRANS,ANT,796KHZ
L2205	645 040 2739	TRANS,OSC,796KHZ
Q2001	405 151 4301	TR KTC3195-Y
or	405 151 4806	TR KTC3195-O
Q2002	405 151 4301	TR KTC3195-Y
or	405 151 4806	TR KTC3195-O
Q2003	405 017 9600	TR 2SC3330-T
or	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
or	405 143 8706	TR KTC3199-GR
or	405 017 9709	TR 2SC3330-U

## PARTS LIST

REF.NO.	PART NO.	DESCRIPTION	REF.NO.	PART NO.	DESCRIPTION
Q2101	405 000 0904	TR DTA114YS	L4902	645 031 5893	TRANS,OSC,85KHZ,O.S.C
or	405 151 5209	TR KRA107M	LG401	645 006 4432	FIXER
Q2102	405 143 0007	TR KRC107M	PR495	△ 645 014 2529	PROTECTOR,1.25A 125V
or	405 000 3806	TR DTC114YS	PR496	△ 645 014 2536	PROTECTOR,1.5A 125V
Q2110	405 143 0007	TR KRC107M	Q4103	405 000 0508	TR DTA114ES
or	405 000 3806	TR DTC114YS	or	405 110 5400	TR KRA102M-A
Q2111	405 151 4301	TR KTC3195-Y	Q4104	405 000 3103	TR DTC114ES
or	405 151 4806	TR KTC3195-O	or	405 109 9204	TR KRC102M-A
Q2201	405 151 5209	TR KRA107M	Q4106	405 000 3103	TR DTC114ES
or	405 000 0904	TR DTA114YS	or	405 109 9204	TR KRC102M-A
S2001	645 023 5795	SWITCH,LEVER	Q4108	405 000 3806	TR DTC114YS
SH201	614 256 3052	SHIELD	or	405 143 0007	TR KRC107M
T2001	645 043 0213	FILTER,450KHZ	Q4109	405 000 3806	TR DTC114YS
T2002	645 040 9981	TRANS,IF 10.7MHZ	or	405 143 0007	TR KRC107M
or	645 039 9923	TRANS,IF 10.7MHZ	Q4730	405 006 1806	TR 2SA933S-R
XF210	645 059 0047	FILTER,BP	or	405 006 1905	TR 2SA933S-S
XF211	645 054 1223	CERAMIC FILTER 10.70MHZ	or	405 004 5103	TR 2SA608-G-SPA
or	645 010 7665	CERAMIC FILTER 10.70MHZ	or	405 004 4601	TR 2SA608-F-SPA
or	614 240 2917	FILTER,CERAM	or	405 143 6504	TR KTA1267-GR
XF212	645 010 7665	CERAMIC FILTER 10.70MHZ	Q4740	405 000 3103	TR DTC114ES
or	614 240 2917	FILTER,CERAM	or	405 109 9204	TR KRC102M-A
or	645 054 1223	CERAMIC FILTER 10.70MHZ	Q4751	405 151 4400	TR KTD1303
XF215	645 059 0054	CERAMIC FILTER 450KHZ	or	405 021 0204	TR 2SD1012-F-SPA
			or	405 021 0600	TR 2SD1012-G-SPA
			or	405 033 6706	TR 2SD1468S-R
			or	405 033 6805	TR 2SD1468S-S
			Q4830	405 143 6504	TR KTA1267-GR
			or	405 004 4601	TR 2SA608-F-SPA
			or	405 004 5103	TR 2SA608-G-SPA
			or	405 006 1806	TR 2SA933S-R
			or	405 006 1905	TR 2SA933S-S
			Q4840	405 000 3103	TR DTC114ES
			or	405 109 9204	TR KRC102M-A
			Q4851	405 033 6805	TR 2SD1468S-S
			or	405 151 4400	TR KTD1303
			or	405 021 0204	TR 2SD1012-F-SPA
			or	405 021 0600	TR 2SD1012-G-SPA
			or	405 033 6706	TR 2SD1468S-R
			Q4902	405 011 8500	TR 2SC1740S-R
			or	405 017 9600	TR 2SC3330-T
			or	405 017 9709	TR 2SC3330-U
			or	405 011 8609	TR 2SC1740S-S
			or	405 143 8706	TR KTC3199-GR
			Q4903	405 143 8706	TR KTC3199-GR
			or	405 011 8500	TR 2SC1740S-R
			or	405 011 8609	TR 2SC1740S-S
			or	405 017 9600	TR 2SC3330-T
			or	405 017 9709	TR 2SC3330-U
			Q4904	405 143 8706	TR KTC3199-GR
			or	405 011 8500	TR 2SC1740S-R
			or	405 011 8609	TR 2SC1740S-S
			or	405 017 9600	TR 2SC3330-T
			Q4951	△ 405 138 6403	TR KTD2058Y
			or	△ 405 095 1602	TR 2SD2061-E
			or	△ 405 095 1701	TR 2SD2061-F
			Q4992	405 141 3703	TR KTA1271-Y
			or	405 008 2405	TR 2SB698-F
			or	405 008 2504	TR 2SB698-G
			Q4994	405 143 0007	TR KRC107M
			or	405 000 3806	TR DTC114YS
			Q4995	405 141 3703	TR KTA1271-Y
			or	405 008 2405	TR 2SB698-F
			or	405 008 2504	TR 2SB698-G
			R4752	402 071 1304	FUSIBLE RES 2.2 JA 1/4W
			R4852	402 071 1304	FUSIBLE RES 2.2 JA 1/4W
			R4941	△ 402 081 0205	FUSIBLE RES 27 JA 1/4W
			S4950	645 038 7586	SWITCH,PUSH,R/PSW
			SA402	411 021 6405	SCR S-TPG BIN 3X8

### AMPLIFIER P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
75	614 325 4706	ASSY,PWB,AMP(Only Initial)
C4714	403 058 4608	POLYESTER 0.15U J 50V
C4814	403 058 4608	POLYESTER 0.15U J 50V
C4913	403 329 5907	ELECT 3300U M 25V
or	403 350 9301	ELECT 3300U M 25V
C4918	403 377 6307	POLYESTER 1000P J 50V
or	403 056 7502	POLYESTER 1000P J 50V
CN401	645 006 1875	PLUG,2P,SPEAKER
CN402	645 006 1875	PLUG,2P,SPEAKER
CN405	614 310 2755	PLUG,4P
or	645 004 2904	PLUG,4P
CN406	614 310 2458	PLUG,4P
or	645 005 8110	PLUG,4P
CN421	645 011 6384	JACK,PHONE D3.6,HEADPHONE
or	645 055 1017	JACK,PHONE D3.6,HEADPHONE
CN441	614 310 2731	PLUG,2P,POWER
or	645 004 2881	PLUG,2P,POWER
CN490	645 012 2736	SOCKET,DIP 8P
CN491	645 059 0474	SOCKET,FPC 14P
CN492	614 309 8812	ASSY,WIRE
or	614 314 4809	ASSY,WIRE
D4102	407 012 4406	DIODE 1SS133
D4951	△ 407 099 6003	ZENER DIODE MTZJ9.1B
D4953	407 012 4406	DIODE 1SS133
D4961	407 012 4406	DIODE 1SS133
D4962	407 012 4406	DIODE 1SS133
D4963	407 012 4406	DIODE 1SS133
D4980	△ 407 098 3300	DIODE RL153-BF-S2
D4981	△ 407 098 3300	DIODE RL153-BF-S2
D4982	△ 407 098 3300	DIODE RL153-BF-S2
D4983	△ 407 098 3300	DIODE RL153-BF-S2
D4993	407 012 4406	DIODE 1SS133
FCL41	△ 645 006 4760	HOLDER,FUSE
or	△ 645 031 7903	HOLDER,FUSE
FCL42	△ 645 006 4760	HOLDER,FUSE
or	△ 645 031 7903	HOLDER,FUSE
HS401	614 307 9866	HEAT SINK
IC410	409 384 3506	IC BA3314F
IC411	409 390 1107	IC LC75392
IC412	△ 409 295 7402	IC TA8229K
IC446	△ 409 039 9204	IC NJM78L05A
L4780	645 002 1459	INDUCTOR,22U K
L4781	645 002 1459	INDUCTOR,22U K
L4881	645 002 1459	INDUCTOR,22U K

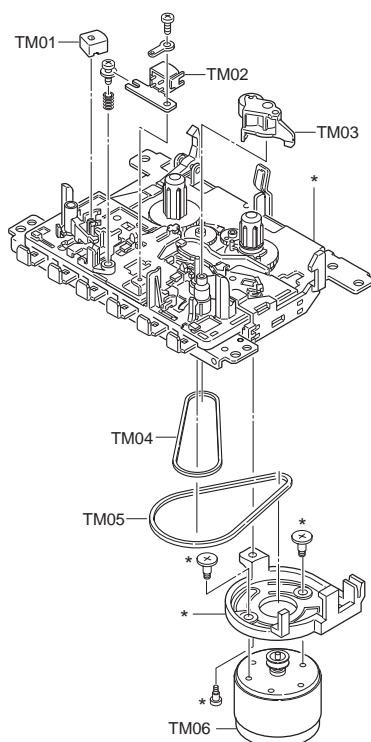


## PARTS LIST

### POWER TRANSFORMER P.W.BOARD ASSY

REF.NO.	PART NO.	DESCRIPTION
76	614 325 4744	ASSY,PWB,PT(Only Initial)
CN450	614 020 1215	SOCKET,2P
CN451	614 017 8203	TERMINAL BOARD
CN452	614 017 8203	TERMINAL BOARD
CN453	614 314 4762	ASSY,WIRE
or	614 309 8447	ASSY,WIRE
L4591	△645 041 3087	INDUCTOR,180U
or	△645 038 6053	INDUCTOR,181U

## EXPLODED VIEW & PARTS LIST(TAPE MECHANISM)

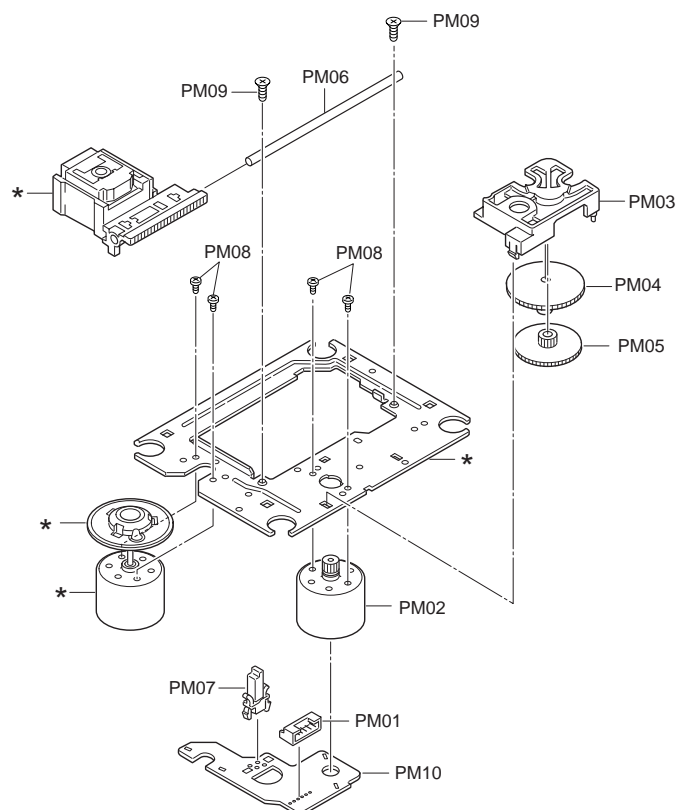


### TAPE MECHANISM

REF.NO.	PART NO.	DESCRIPTION
	614 309 7976	ASSY,MECHA,TM-DA70TN-SH
TM01	645 033 8625	E HEAD 6PA
TM02	645 041 3025	R.P HEAD
TM03	645 009 1612	PINCH ROLLER ARM ASSY
TM04	645 009 1766	RF BELT
TM05	645 033 3415	MAIN BELT
TM06	614 312 0629	ASSY,MOTOR,FOR SERVICE

\* N.S.P : Not supplied as service parts.

## EXPLODED VIEW & PARTS LIST(CD MECHANISM)



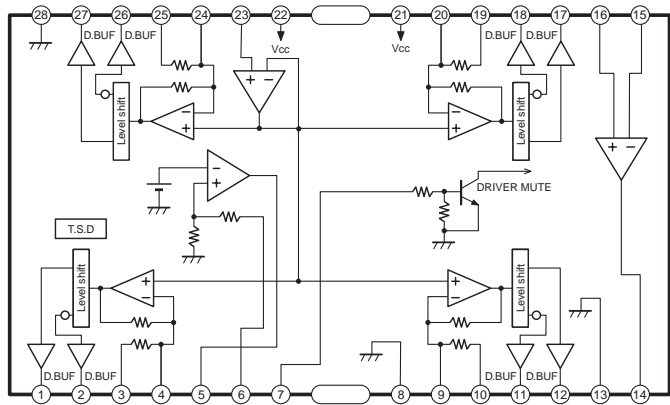
### CD MECHANISM

REF.NO.	PART NO.	DESCRIPTION
	614 325 6014	ASSY,MECHA,DA11T3CN-SASH
PM01	620 021 8436	PLUG 6P
PM02	620 233 0853	ASSY MOTOR
PM03	620 236 3776	COVER,GEAR
PM04	620 230 8753	GEAR MIDDLE
or	620 237 8800	GEAR MIDDLE
PM05	620 230 8760	GEAR DRIVE
or	620 237 8770	GEAR DRIVE
PM06	620 231 0596	SHAFT SLIDE
PM07	620 233 0860	SWITCH LEAG
PM08	411 104 8401	SCR PAN PCS 2X3
PM09	411 027 5402	SCR S-TPG FLT 2.6X6
PM10	620 236 0836	PWB,MOTOR

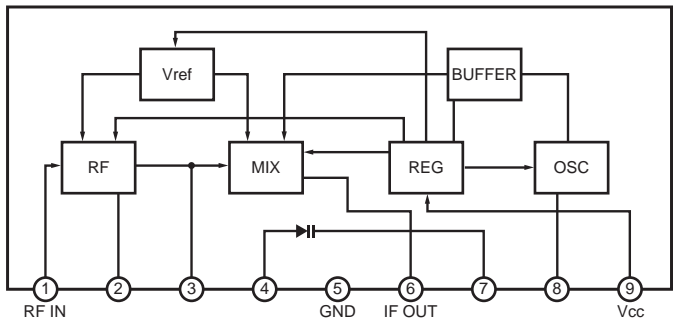
\* N.S.P : Not supplied as service parts.

IC BLOCK DIAGRAM & DESCRIPTION

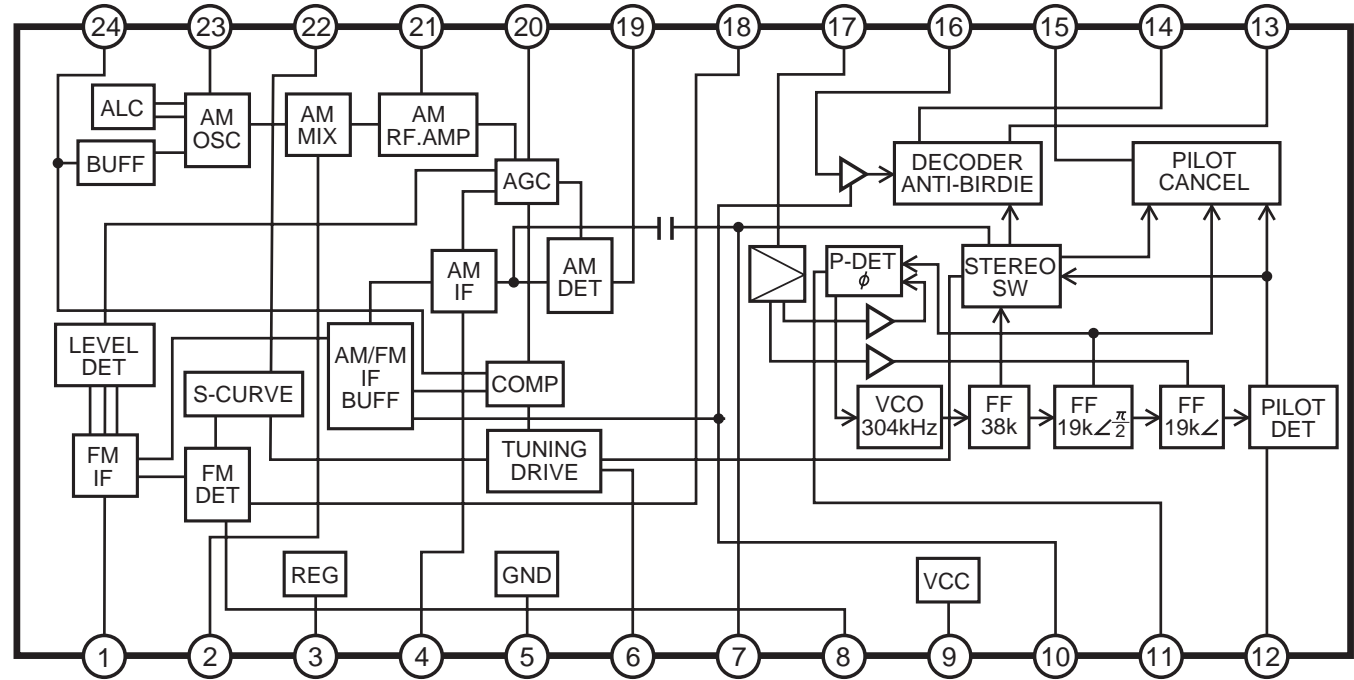
IC103 MM1469XH (CD Driver)



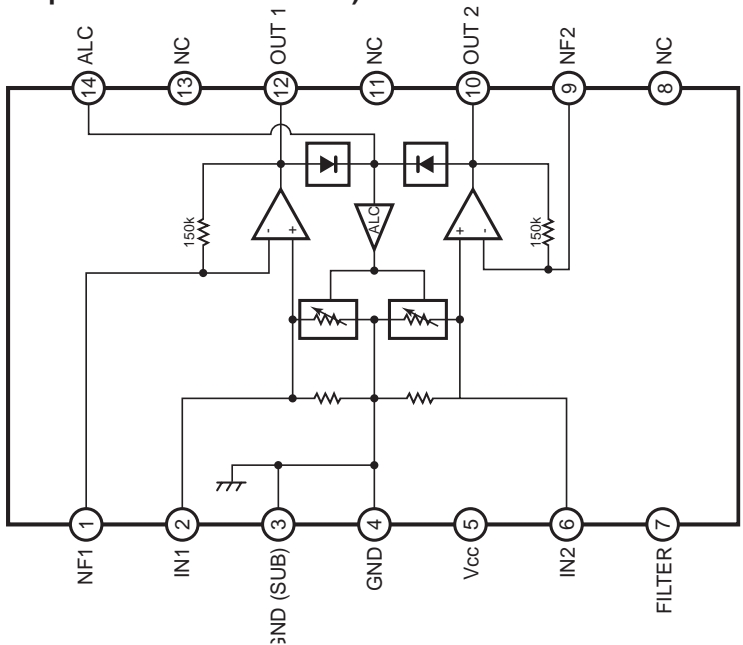
IC201 LA1186N-AUDIO (FM Front End)



IC211 LA1844ML (Tuner System)

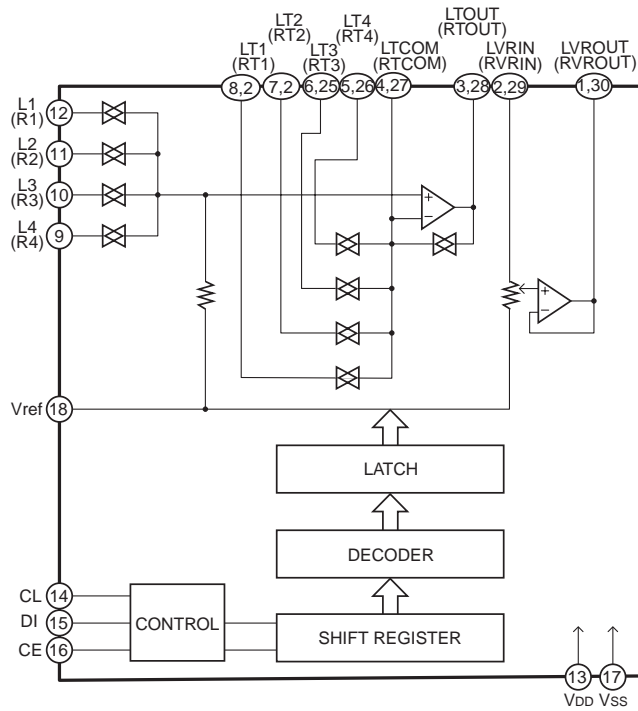


IC410 BA3314F (Dula Preamplifier with ALC Detector)

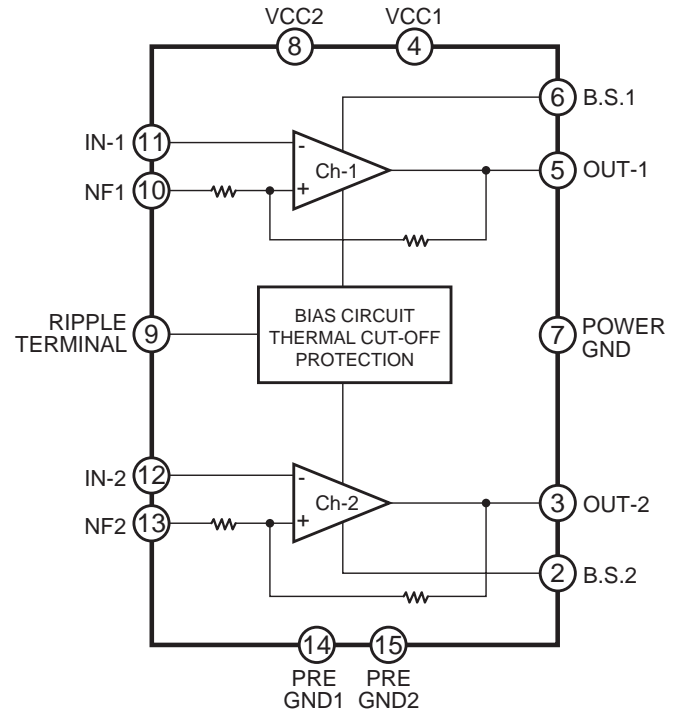


## IC BLOCK DIAGRAM & DESCRIPTION

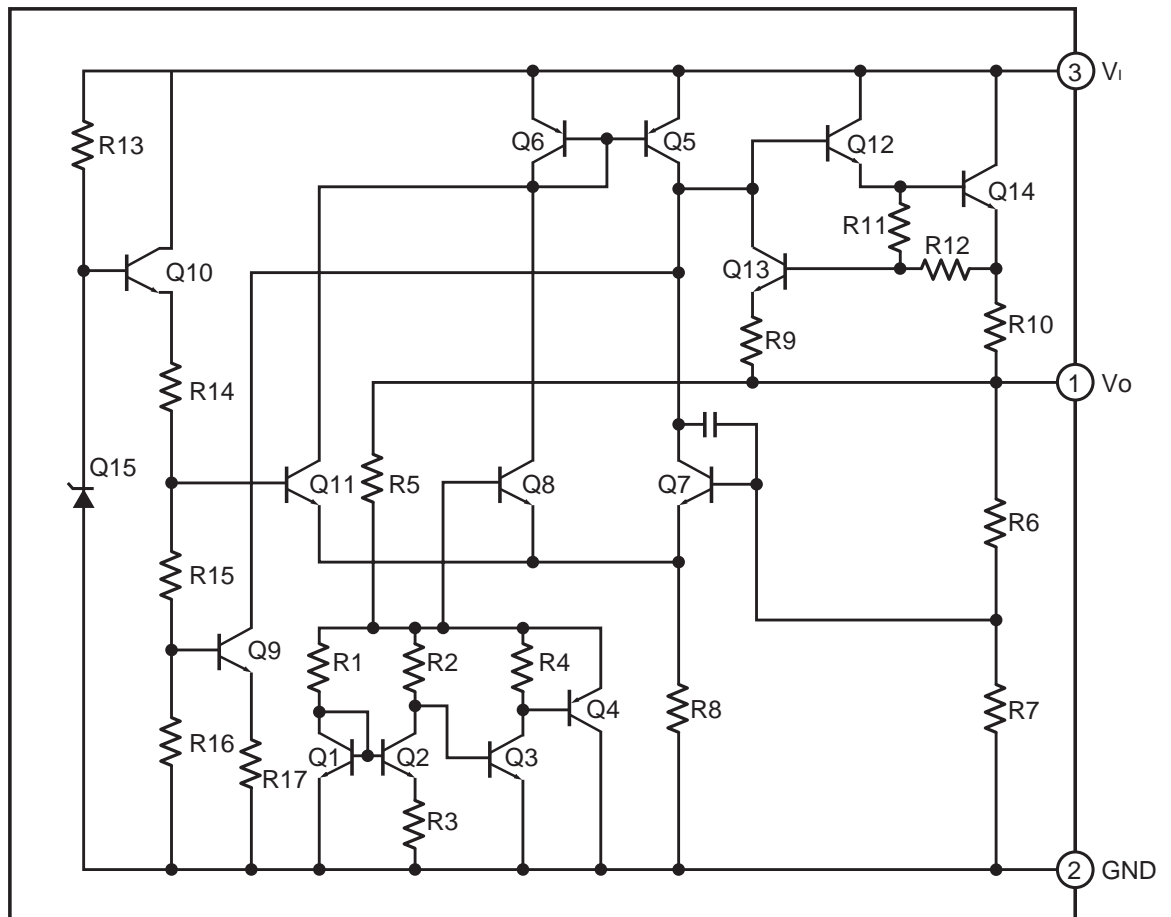
### IC411 LC75392 (Function & Electric Volume)



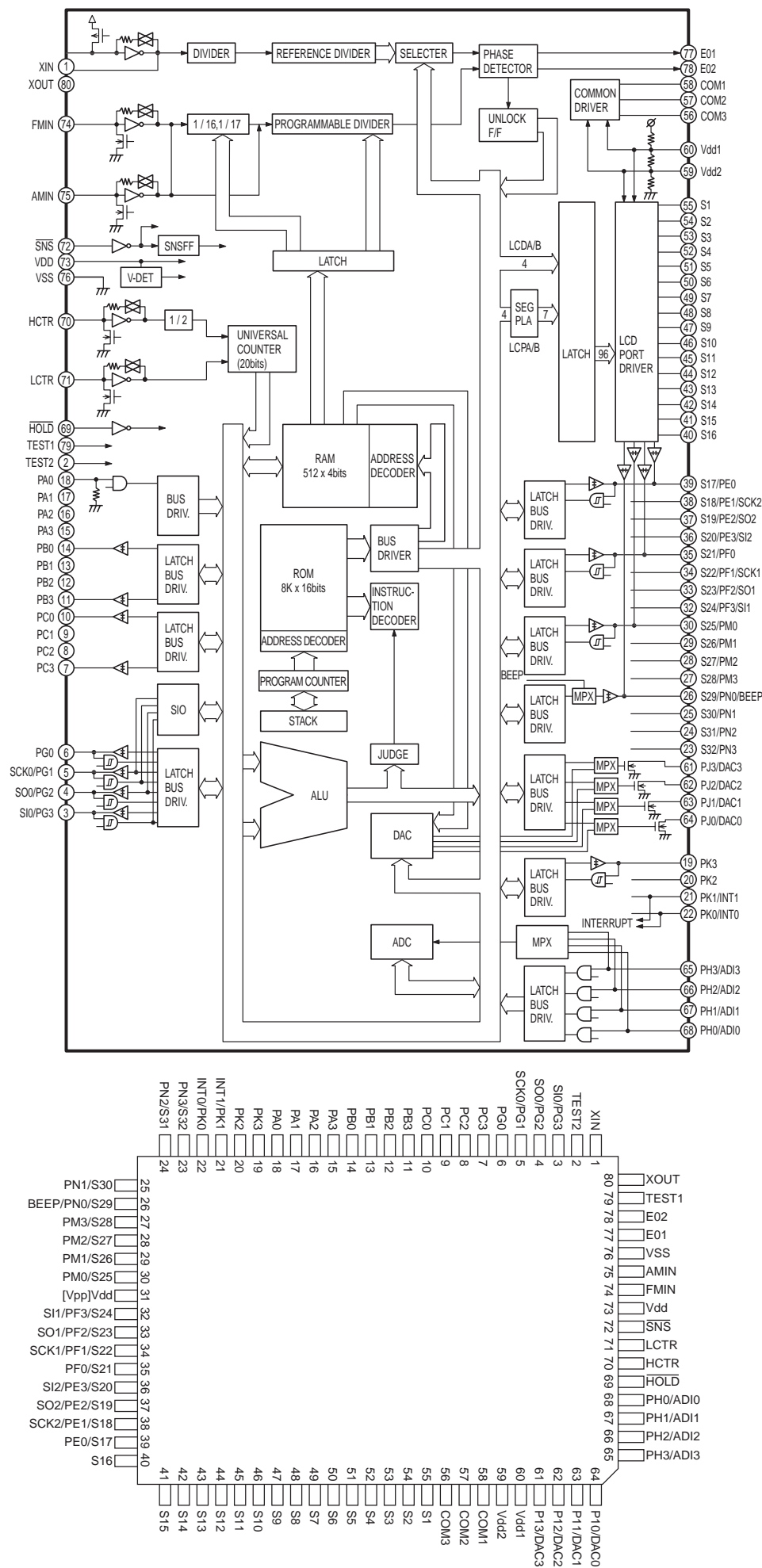
### IC412 TA8229K (Power Amplifier)



### IC446 NJM78L05A (Stabilized Power Supply)



IC BLOCK DIAGRAM & DESCRIPTION  
IC601 IC LC72338-9B55 (Single-Chip PLL + Controller)



# IC BLOCK DIAGRAM & DESCRIPTION

## IC601 IC LC72338-9B55 (Single-Chip PLL + Controller)

Pin name	Pin No.	I/O	I/O Format	Functions									
PA0 PA1 PA2 PA3	18 17 16 15	I	Pull-down resistor input	Port only for key return signal input. The threshold voltage is set to a relatively low value. When a key matrix is formed by combining PB and PC ports, maximum three simultaneous key presses can be detected. All of four pull-down resistor are set by the IOS instruction with Pn=2, b1 and specification of resistor for each pin is impossible. The input is disabled in clock stop mode.									
PB0 PB1 PB2 PB3 PC0 PC1 PC2 PC3	14 13 12 11 10 9 8 7	O	Unbalance CMOS Push-pull	Port only for key source signal output. Since the output transistor circuit is an unbalanced CMOS structure, diodes to prevent short-circuiting due to multiple key presses are not required. In clock stop mode, these pins go to the output high-impedance state and hold this state until an output instruction is executed.									
PG0 PG1/SCK0 PG2/SO0 PG3/SIO	6 5 4 3	I/O	CMOS push-pull	General-purpose output/serial I/O ports. Schmidt type input the IOS instruction performs switching between general-purpose I/O ports and serial I/O ports, and between input and output for general-purpose I/O ports. <ul style="list-style-type: none"><li>When used as general-purpose I/O ports these pins can be set for input or output in bit units(bit I/O), and are set for use as general-purpose I/O ports by the IOS instruction with Pn=0. b0=SI/O    0    0... general-purpose port                  1    ... SI/O port</li></ul> Specification of input or output is made by the IOS instruction in bit units. PG...Pn=6    0... Input 1... Output <ul style="list-style-type: none"><li>When used as serial I/O ports these pins are set for serial I/O port use by the IOS instruction with Pn=0. The content of serial I/O data buffer is saved or load by the INR and OTR instructions. *Pin setup states when used as serial I/O ports PG0... general-purpose input or output PG1... SCK0 output in internal block           SCK0 input in external block PG2... SO0 output PG3... SIO input</li></ul> In clock stop mode, input is disabled and these pins go to the high-impedance state. During the power-on reset, these pins become general-purpose input ports.									
XIN XOUT	1 80	I O	-	4.5MHz crystal oscillator pin.									
EO1 EO2	78 77	O	CMOS tristate	Charge pump output pin. These pins go to high-impedance state when the HOLD pin is set low in the hold enable state. In cckok stop mode, during the power-on reset and in the PLL stop state, these pins go to the high-impedance state.									
VSS VDD	76 31,73	-	-	Power supply pin.									
FMIN	74	I		FMVCO (local oscillator) input pin. This pin is selected by the PLL instruction CW1 (b1=0,b0=don't care). Capacitor coupling must be used for signalinput. Input is disabled when the HOLD pin is set low inthe hold enable state. Input is disable in clock stop mode,during the power-on reset, and in the PLL stop state.									
AMIN	75	I		AMVCO (lcal oscillator) input pin. This pin is selected and the band set by the PLL instruction CW1 (b1,b0). <table border="1"><tr><td>b1</td><td>b0</td><td>Band</td></tr><tr><td>1</td><td>0</td><td>2 to 40MHz (SW)</td></tr><tr><td>1</td><td>1</td><td>0.5 to 10MHz (MW,NW)</td></tr></table> Capacitor coupling must be used for signal input. Input is disabled when the HOLD pin is set low in the hold enable state. Input is disabled in clock stop mode, during the power-on reset, and in the PLL stop state.	b1	b0	Band	1	0	2 to 40MHz (SW)	1	1	0.5 to 10MHz (MW,NW)
b1	b0	Band											
1	0	2 to 40MHz (SW)											
1	1	0.5 to 10MHz (MW,NW)											
HCTR	70	I		Universal counter / general-purpose input port. The IOS instruction b3 with Pn=3 switches the pin function between universal counter input and general-purpose input. <ul style="list-style-type: none"><li>Frequency measurement The universal counter function is selected by an IOS instruction with Pn=3 and b2=0. HCTR frequency measurement mode is set up by a UCS instruction with b3=0 and b2=0 and counting is started with a UCC instruction after the count time is selected. The CNTEND flag is set when the count completes. To operate this circuit as an AC amplifier in this mode, the input must be capacitor coupled.</li><li>For use as the general-purpose input pin. The general-porpose input port function is selected by an IOS instruction with Pn=3 and b2=1. An internal register (address OEh) input instruction INR(b0) is used to acquire data from this pin.</li></ul> Input is disabled in clock stop mede (the input pin will be pulled down.) During the power-on reset, the universal counter function is selected.									
SNS	72	I		Voltage sense / general-purpose input pin port. This circuit is designed for a relatively low input threshold voltage. <ul style="list-style-type: none"><li>For use as the voltage sense pin This input pin is is used to determine whether or not a power failure occurred after recovery from backup (clock stop) mode. An internal sense F/F is used for this determination. The sense F/F is tested with a TUL instruction (b2).</li><li>For use as the general-purpose input port When used as a general-purpose input port, the state is sensed by using a TUL instruction (b3). Since unlike other input ports, input is not disable in clock stop mode and during the power-on reset, special care is required with respect to through currents.</li></ul>									

Pin name	Pin No.	I/O	I/O Format	Functions
LCTR	71	I		Universal counter (frequency and period measurement) / general-purpose input port. This IOS instruction b3 with Pn=3 switches the pin function between universal counter input and general-purpose input. • Frequency measurement The universal counter function is selected by an IOS instruction with Pn=3 and b3=0. LCTR frequency measurement mode is set up by a UCS instruction with b3=0 and b2=1, and counting is started with a UCC instruction after the count time is selected. The CNTEND flag is set when the count completes. To operate this circuit as an AC amplifier in this mode, the input must be capacitor coupled. • Period measurement With the universal counter function selected, a UCS instruction with b3=1 and b2=0 sets up the period measurement mode and a UCC instruction starts counting after selecting the count time. The CNTEND flag is set when the count completes. In this mode, the signal must be input with DC coupling to turn off the bias feedback resistor. • For use as general-purpose input pin use. The general-purpose input port function is selected by an IOS instruction with Pn=3 and b3=1. An internal register (address OEh) input instruction INR(b1) is used to acquire data from this pin. Input is disabled in clock stop mode. (The input pin will be pulled down.) During the power-on reset, the universal counter function (in HCTR frequency measurement mode) is selected.
HOLD	69	I		PLL control and CLOCK STOP mode control pin. Setting this pin low in the hold enable state disables input to the FMIN and AMIN pins and sets the EO pin to the high-impedance state. To enter clock stop mode, set the HOLDEN flag, set this pin low, and execute a CKSTP instruction. To clear clock stop mode set this pin high.
PH0/ADI0 PH1/ADI1 PH2/ADI2 PH3/ADI3	68 67 66 65	I		General-purpose input ports/ADC input pins. The IOS instruction with Pn=7 switches the pin function between general-purpose input ports and ADC inputs. • For use as the general-purpose input port The IOS instruction with Pn=7 specifies the use as general-purpose input port in bit units. • For use as ADC input pin The IOS instruction with Pn=7 specifies the use as ADC in bit units. The IOS instruction with Pn=1 specifies the pin to convert. The UCC instruction (b2) starts a conversion. The ADCE flag will be set when the conversion completes. Note) Executing an input instruction for a port specified for ADI use will always return low since input is disabled. These pins must be set up for general-purpose input port usage before an input instruction is executed. (In other words, the port must be set to the general-purpose input function before the input instruction is executed.) Input is disabled in clock stop mode. During the power-on reset these pins go to the general-purpose input port function.
PJ0/DAC0 PJ1/DAC1 PJ2/DAC2 PJ3/DAC3	64 63 62 61	O	Nch open drain	General-purpose output ports/DAC input pin. The IOS instruction with Pn=9 switches the pin function between general-purpose output ports and ADC inputs. Since these pins are open drain circuit, pull-up resistors are required in external circuit accepting these outputs. • For use as general-purpose output port The IOS instruction with Pn=9F specifies general-purpose input port use in bit units. • For use as DAC The IOS instruction Pn=9 is used to switch the port in bit units. DAC data is loaded into the DAC (0 to 3) specified with the DAC instruction. Although PWM waveform is output as soon as the port is switched, the data prior to that load is output for up to 114µs (1/8.791kHz) after data is loaded. The general-purpose output port function is selected after a power-on reset, and the output goes to the transistor off (H output) state.
PK0/INT0 PK1/INT1 PK2 PK3	22 21 20 19	I/O	CMOS push-pull	General-purpose I/O / external interrupt ports There is no instruction that switches the function between general-purpose ports and external interrupt ports. These pins function for input only when the external interrupt enable flag is set. (Output disables) • For use as general-purpose I/O port These pins can be set for input or output in bit units (bit I/O). The IOS instruction is used to specify input or output in bit units. • For use as external interrupt pin This function can be used by setting the external interrupt enable flags (INT0EN and INT1EN) in status register 2. The corresponding pin is automatically set to the input port. To enable interrupt operation, the interrupt enable flag (INTEN) in status register 1 must also be set. The IOS instruction with Pn=3, b1=INT1, and b0=INT0 is used to select rising or falling edge detection. In clock stop mode, input is disabled and these pins go to the high-impedance state. During the power-on reset, these pins go to the general-purpose input port function.
Vdd1	57			Pin for external application of 2/3 voltage of LCD drive bias.
Vdd2	58			Pin for external application of 1/3 voltage of LCD drive bias.
TEST1 TEST2	79 2			LSI test pin. These pins must be either left open or connected to ground.
COM1 COM2 COM3	58 57 56	O	CMOS three value output	LCD driver common output pin. Driver format 1/3 duty, 1/3 bias. This pin is fixed at the low level in CLOCK STOP mode. This pin is fixed at the low level after a power-on reset.
S1   S16	55   40	O	CMOS three value output	LCD driver common output pin. Driver format 1/3 duty, 1/3 bias. The frame frequency 100MHz. This pin is fixed at the low level in CLOCK STOP mode. This pin is fixed at the low level after a power-on reset.



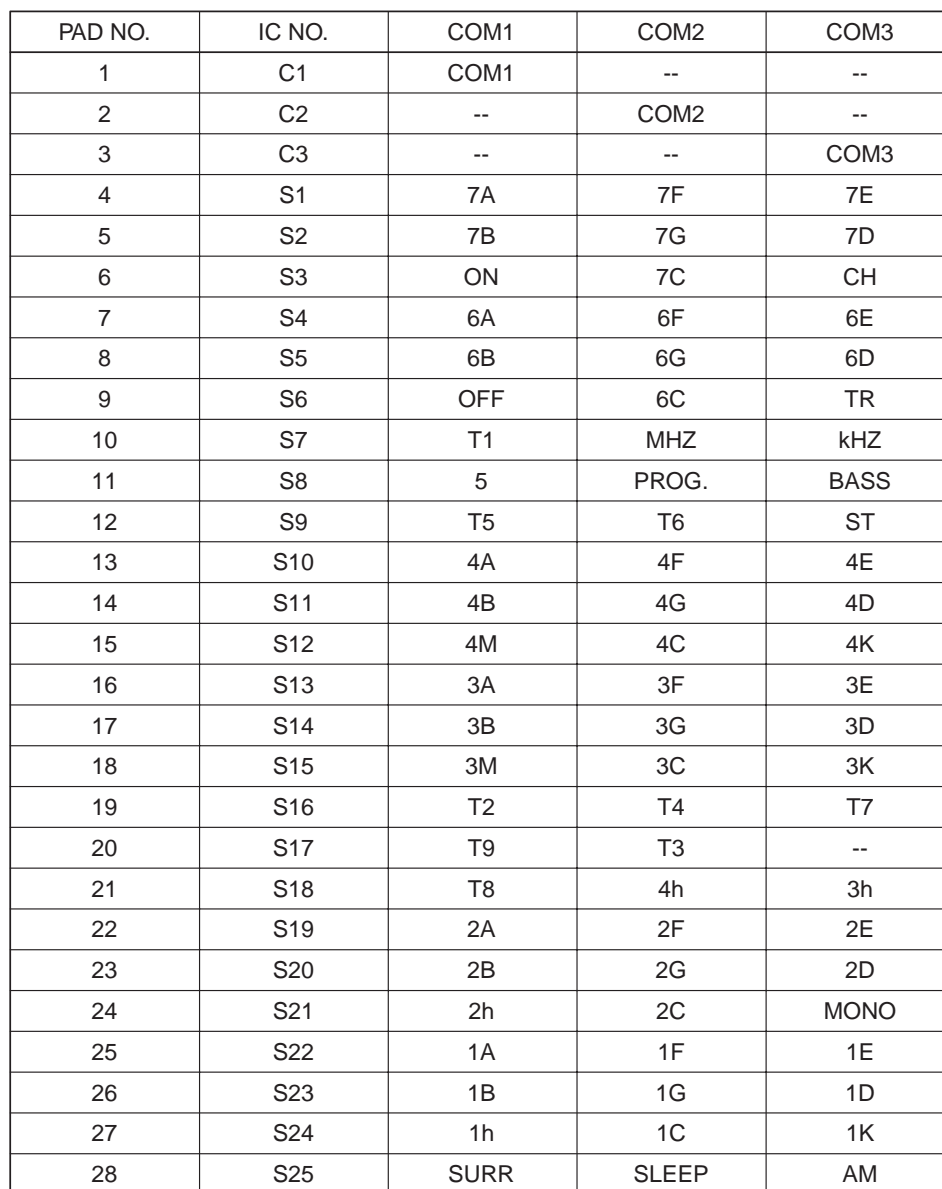
# IC BLOCK DIAGRAM & DESCRIPTION

## IC601 IC LC72338-9B55 (Single-Chip PLL + Controller)

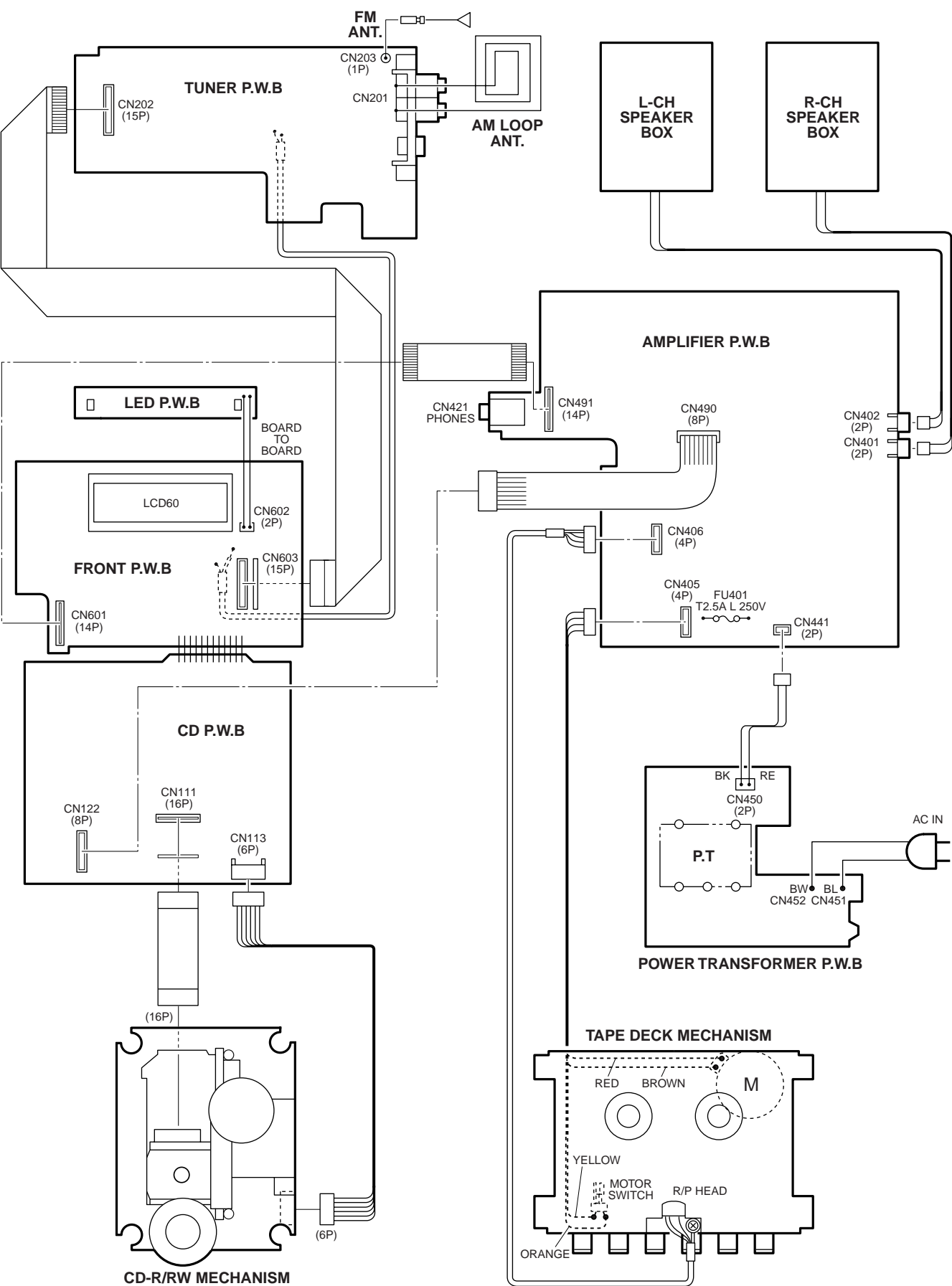
Pin name	Pin No.	I/O	I/O Format	Functions
S17/PE0 S18/PE1/SCK2 S19/PE2/SO2 S20/PE3/SI2	39 38 37 36	I/O	CMOS three value output and push-pull	<p>LCD driver segment output, general-purpose input/output and serial I/O ports.</p> <p>The IOS instruction is used to switch between the LCD driver segment output, general-purpose I/O, and serial I/O functions, and to switch between input and output of the general-purpose input port function.</p> <ul style="list-style-type: none"> <li>For use as segment output These pins can be set in bit units. The IOS instruction with Pn=ODH specifies segment output use in bit units. b0=S17/PE0 0... Segment output b1=S18/PE1 1... PE0 to 3 output b2=S19/PE2 b3=S20/PE3</li> <li>For use as general-purpose input /output port These pins can be set for input/output in bit units. (1 bit I/O) b2=SI/O2 0... Genetal-purpose port 1... SI/O port Input/output is specified with the IOS instruction in bit units. PE... Pn=4 0... Input 1... Output</li> <li>For serial I/O port The serial I/O port function is specified with the IOS instruction (Pn=0). The contents of the serial I/O data buffer can be saved and loaded with the INR and OUTR instructions. *Pin setup states when used as a serial I/O port PE0... General-purpose input/output PE1... SCK2 output in internal clock mode SCK2 output in external clock mode PE2... SO2 output PE3... SI2 input</li> </ul> <p>In CLOCK STOP mode, if this port is used as a general-purpose I/O port or as a serial I/O port, the pins go to the input disabled high-impedance state. If used for segment output, the pins are fixed at the low level. The segment output port function is selected after a power-on reset.</p>
S25/PM0 S26/PM1 S27/PM2 S28/PM3	30 29 28 27	I/O	CMOS three value output and push-pull	<p>LCD driver segment output, general-purpose input/output ports.</p> <p>The IOS instruction is used to switch between the LCD driver segment output, general-purpose I/O port, and serial I/O to switch between input and output of the general-purpose input/output port function.</p> <ul style="list-style-type: none"> <li>For use as segment output These pins can be set in 4 bits units. The IOS instruction with Pn=OEH specifies segment output use in bit units. b0=S25 to 28/PM0 to 3 0... Segment output 1... PM0 to 3</li> <li>For use as general-purpose input /output port These pins can be set for input/output in bit units. Input/output is specified with the IOS instruction in bit units. PM... Pn=OCH 0... Input 1... Output</li> </ul> <p>In CLOCK STOP mode, if this port is used as a general-purpose I/O port, the pins go to the input disabled high-impedance state. If used for segment output, the pins are fixed at the low level. The segment output port function is selected after a power-on reset.</p>

Pin name	Pin No.	I/O	I/O Format	Functions
S21/PF0 S22/PF1/SCK1 S23/PF2/SO1 S24/PF3/SI1	35 34 33 32	I/O	CMOS three value output and push-pull	<p>LCD driver segment output, general-purpose input/output and serial I/O ports.</p> <p>The PF0 to 3 inputs are in the Schmidt format.</p> <p>The IOS instruction is used to switch between the LCD driver segment output, general-purpose I/O, and serial I/O functions, and to switch between input and output of the general-purpose input port function.</p> <ul style="list-style-type: none"> <li>For use as segment output These pins can be set in 4 bits units. The IOS instruction with Pn=OEH specifies segment output use in bit units. b0=S21 to 24/ PF0 to 3 0... Segment output 1... PE0 to 3</li> <li>For use as general-purpose input /output port These pins can be set to input/output in bit units. (1 bit I/O) b1=SI/O 1 0... Genetal-purpose port 1... SI/O port Input/output is specified with the IOS instruction in bit units. PF... Pn=5 0... Input 1... Output</li> <li>For use as serial I/O port The serial I/O port function is specified with the IOS instruction (Pn=0). The contents of the serial I/O data buffer can be saved and loaded with the INR and OUTR instructions. *Pin setup states when used as a serial I/O port PF0... General-purpose input/output PF1... SCK1 output in internal clock mode SCK1 output in external clock mode PF2... SO1 output PF3... SI1 input</li> </ul> <p>In CLOCK STOP mode, if this port is used as a general-purpose I/O port or as a serial I/O port, the pins go to the input disabled high-impedance state. If used for segment output, the pins are fixed at the low level. The segment output port function is selected after a power-on reset.</p>
S29/PN0/BEEP S30/PN1 S31/PN2 S32/PN3	26 25 24 23	O	CMOS three value output and push-pull	<p>Segment output/general-purpose input port 1/ BEEP tone output pins. The IOS instruction is used to switch between the segment output port and the PN0 to 3 functions. The BEEP instruction switches between the general-purpose output port and BEEP tone function.</p> <ul style="list-style-type: none"> <li>For use as segment output These pins can be set in 3 bits units. The IOS instruction with Pn=OEH specifies segment output use in bit units. b2=S29 to 32/ PN0 to 3 0... Segment output 1... PN0 to 3</li> <li>For use as general-purpose output. The general-purpose output port function is selected with the BEEP instruction (b3=0). PN1 to 3 are dedicated general-purpose output function pins.</li> <li>For use as BEEP output pin The BEEP instruction with b3=1 sets the BEEP output. The BEEP instruction bit b0,b1 and b2 sets the frequency. When this is set as the BEEP port, executing an output instruction will rewrite the internal latch data but has no influence on the output.</li> </ul> <p>These pins go to the output high-impedance state in clock stop mode. If used for segment output, the pins are fixed at the low level. These pins go to the output high-impedance state during the power-on reset and hold that state until an output instruction is executed.</p>

## LCD60

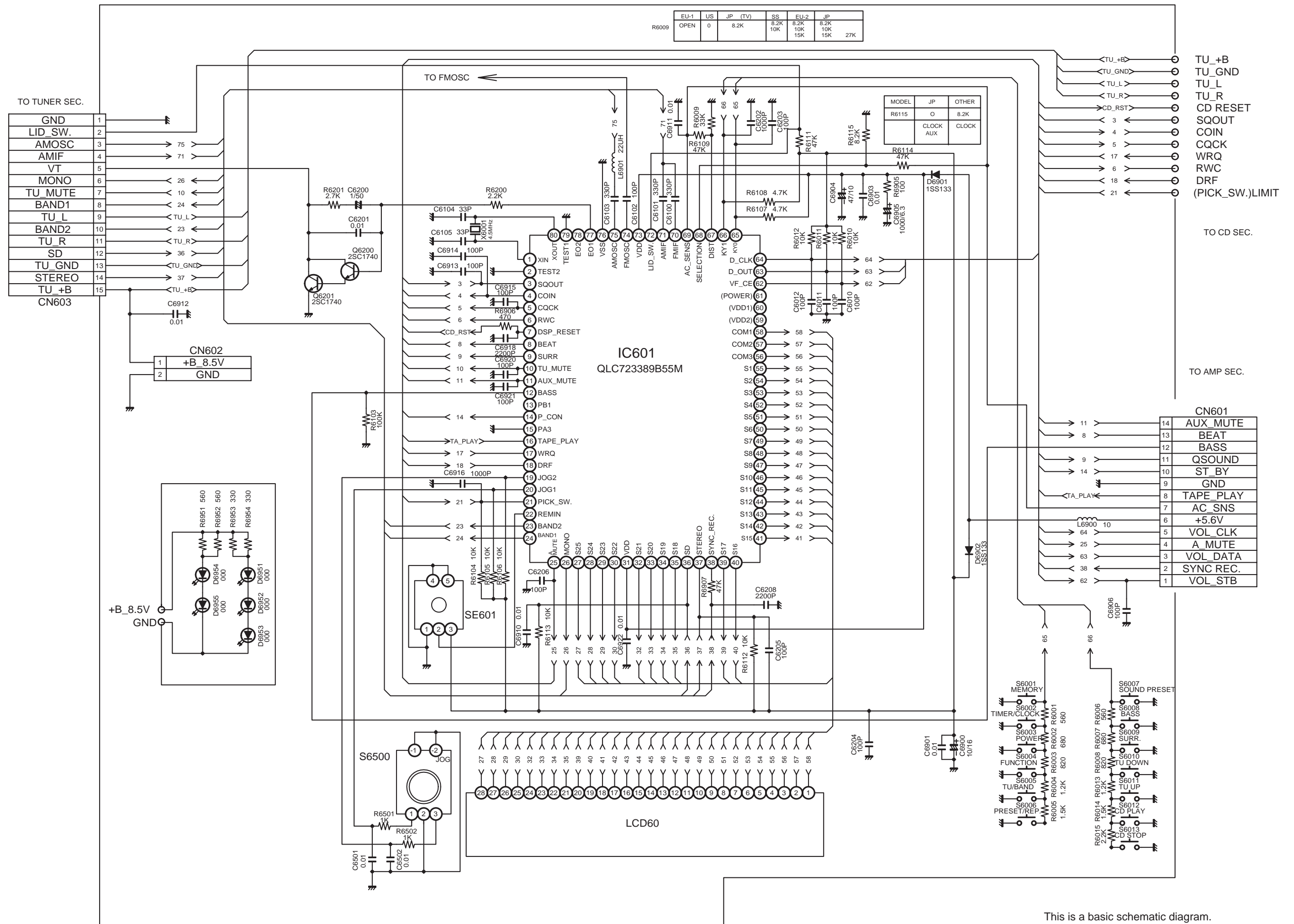


WIRING CONNECTION



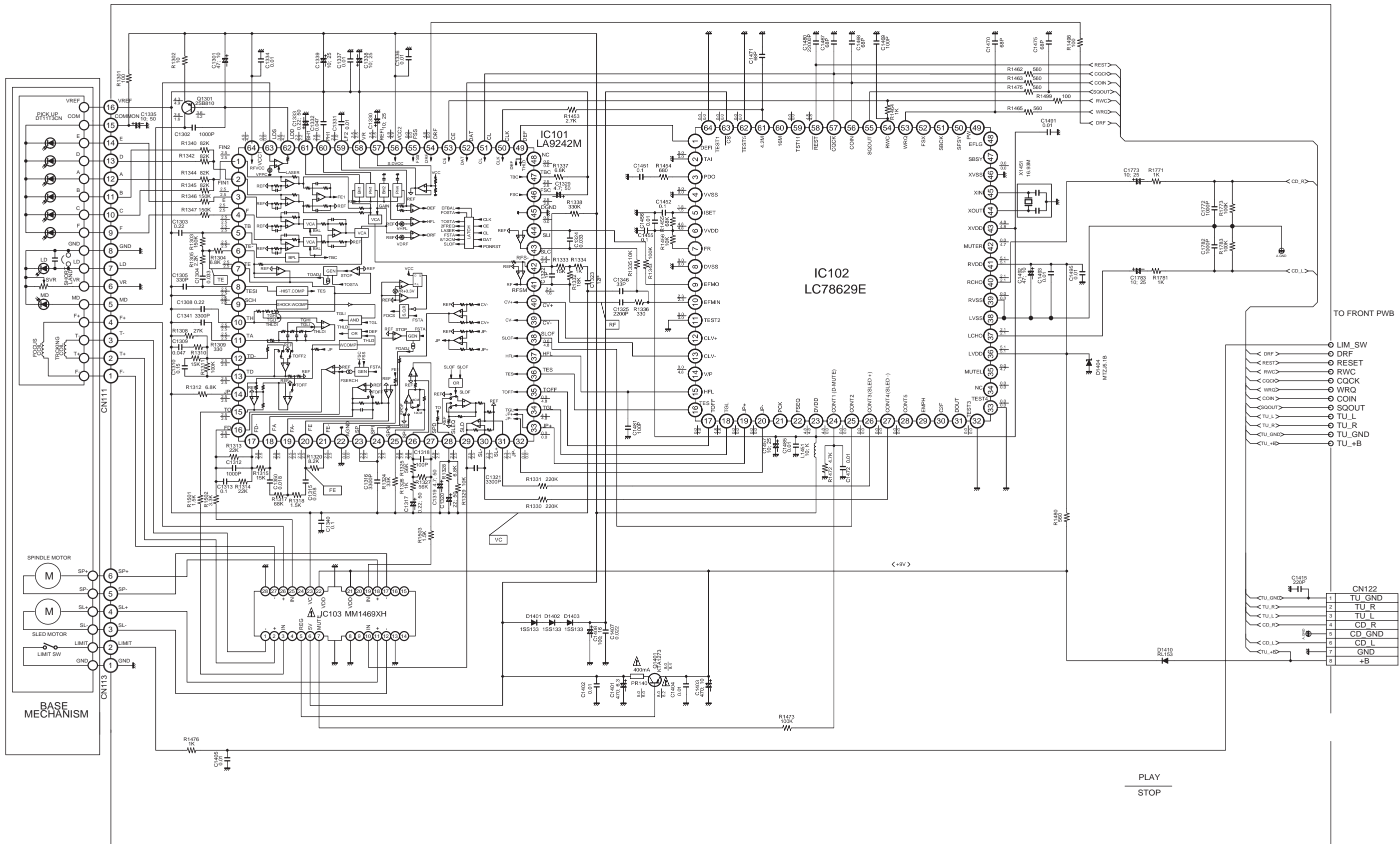
This is a basic wiring diagram.

**SCHEMATIC DIAGRAM (FRONT)** \_\_\_\_\_



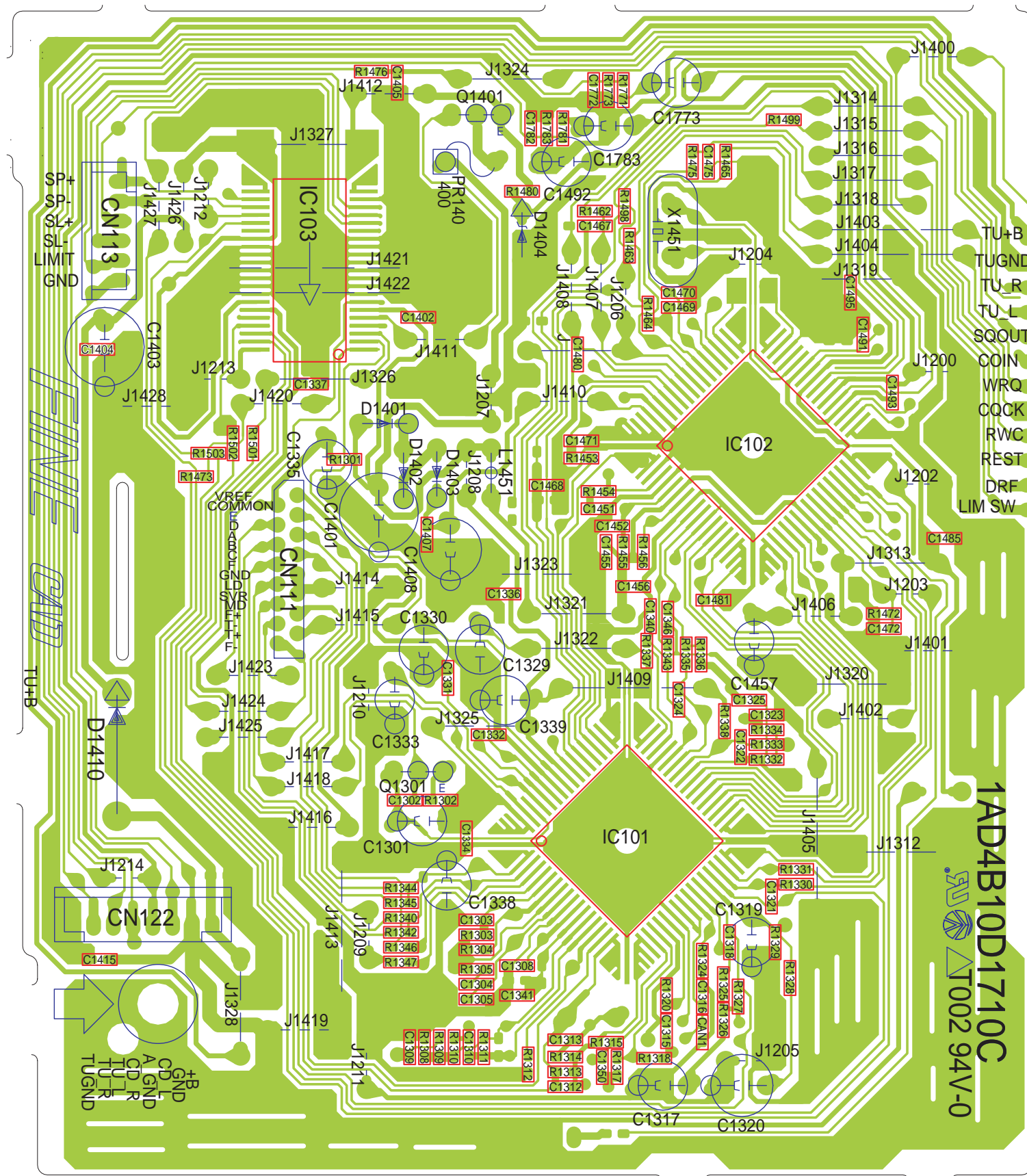
This is a basic schematic diagram.

SCHEMATIC DIAGRAM (CD)



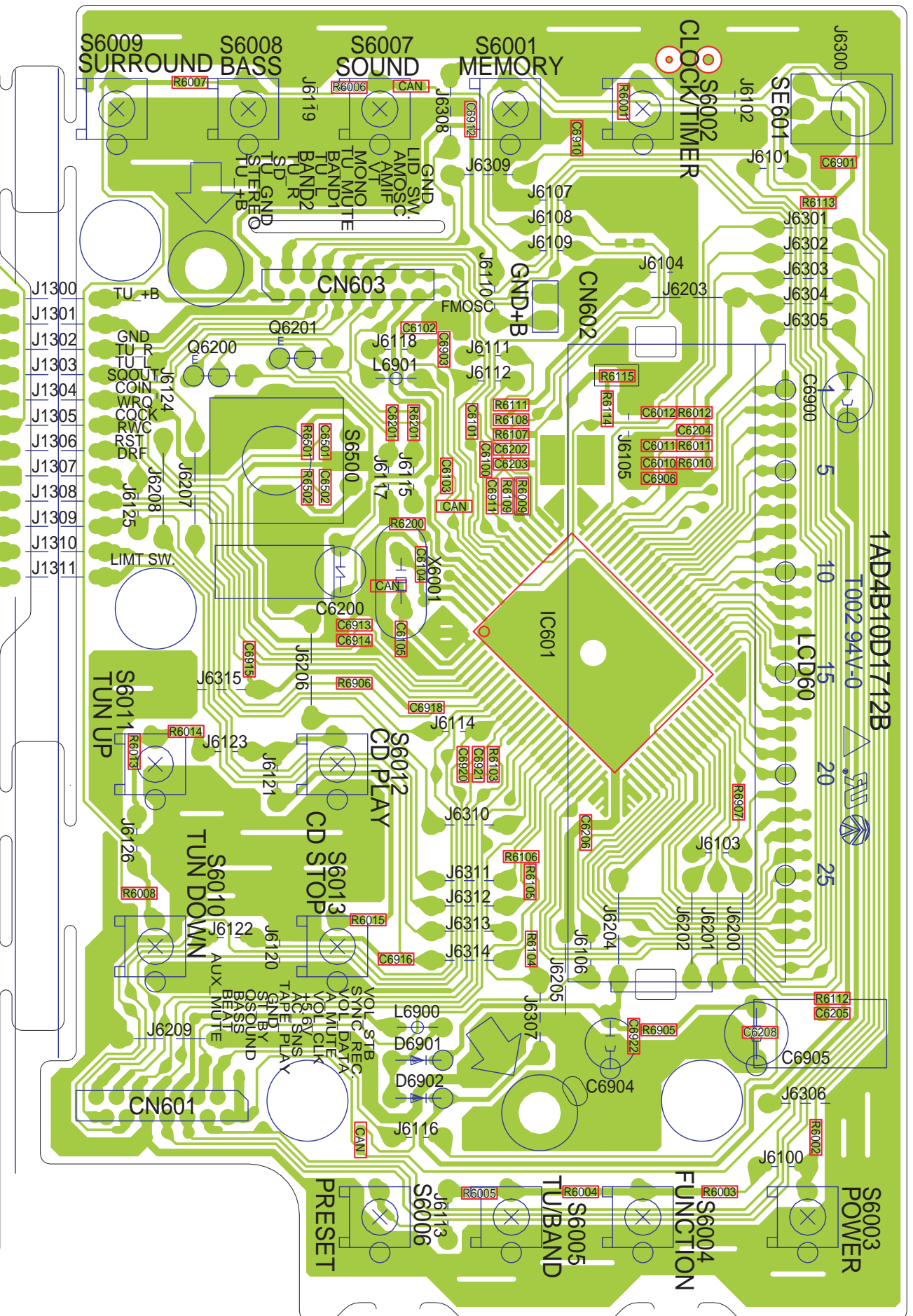
This is a basic schematic diagram.



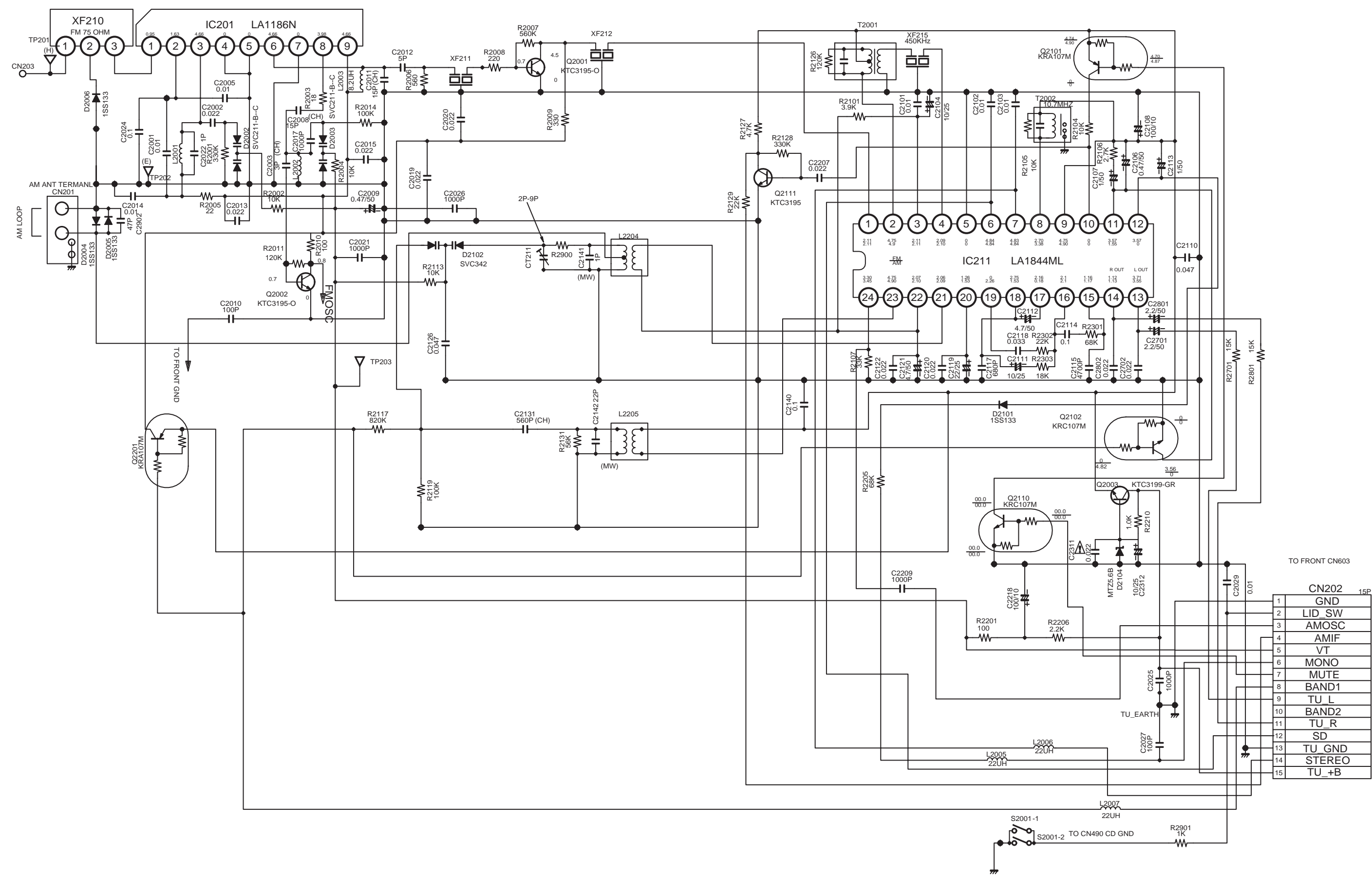
**CD P.W. BOARD**

This is a basic wiring diagram.

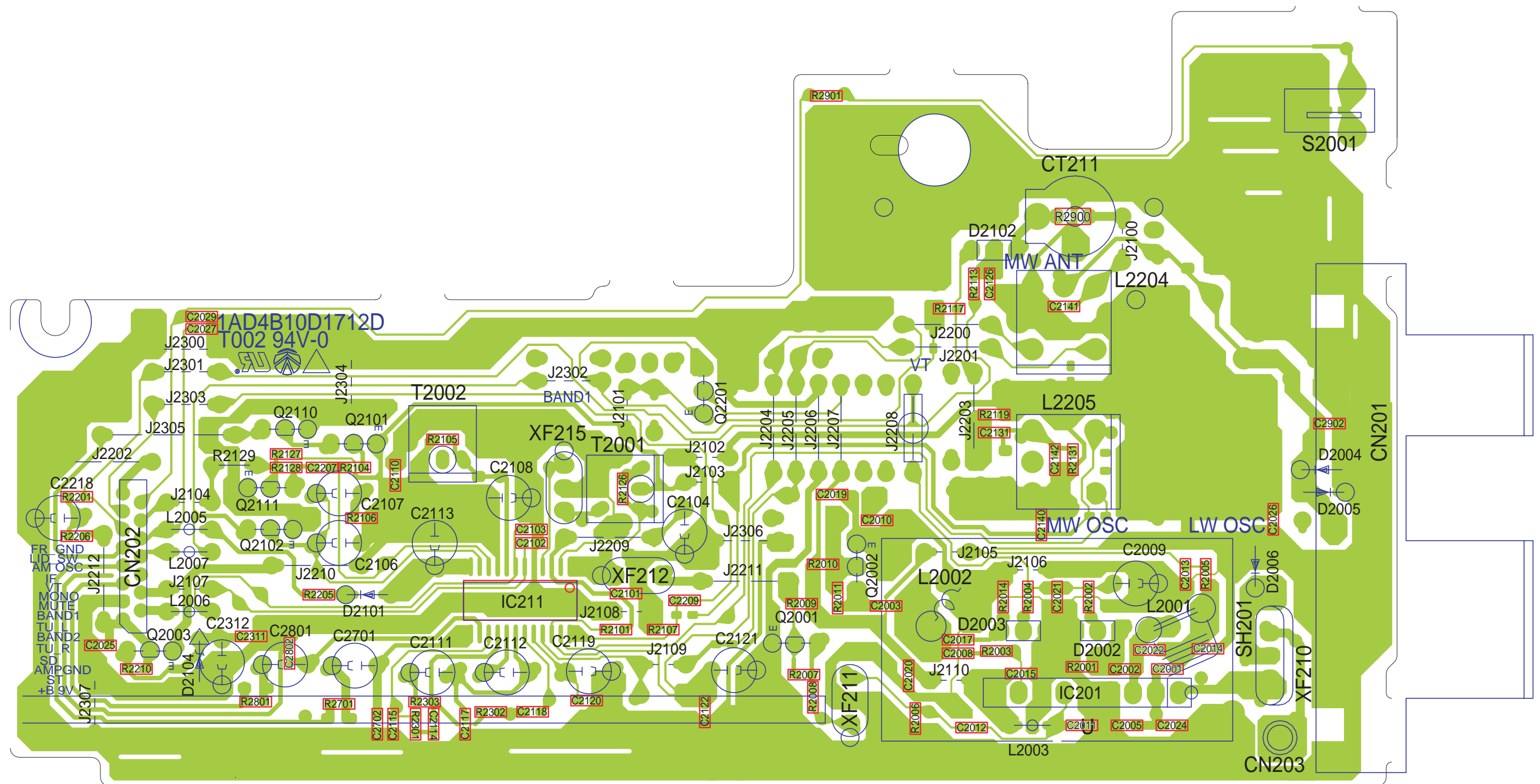
**FRONT P.W. BOARD**



SCHEMATIC DIAGRAM (TUNER)



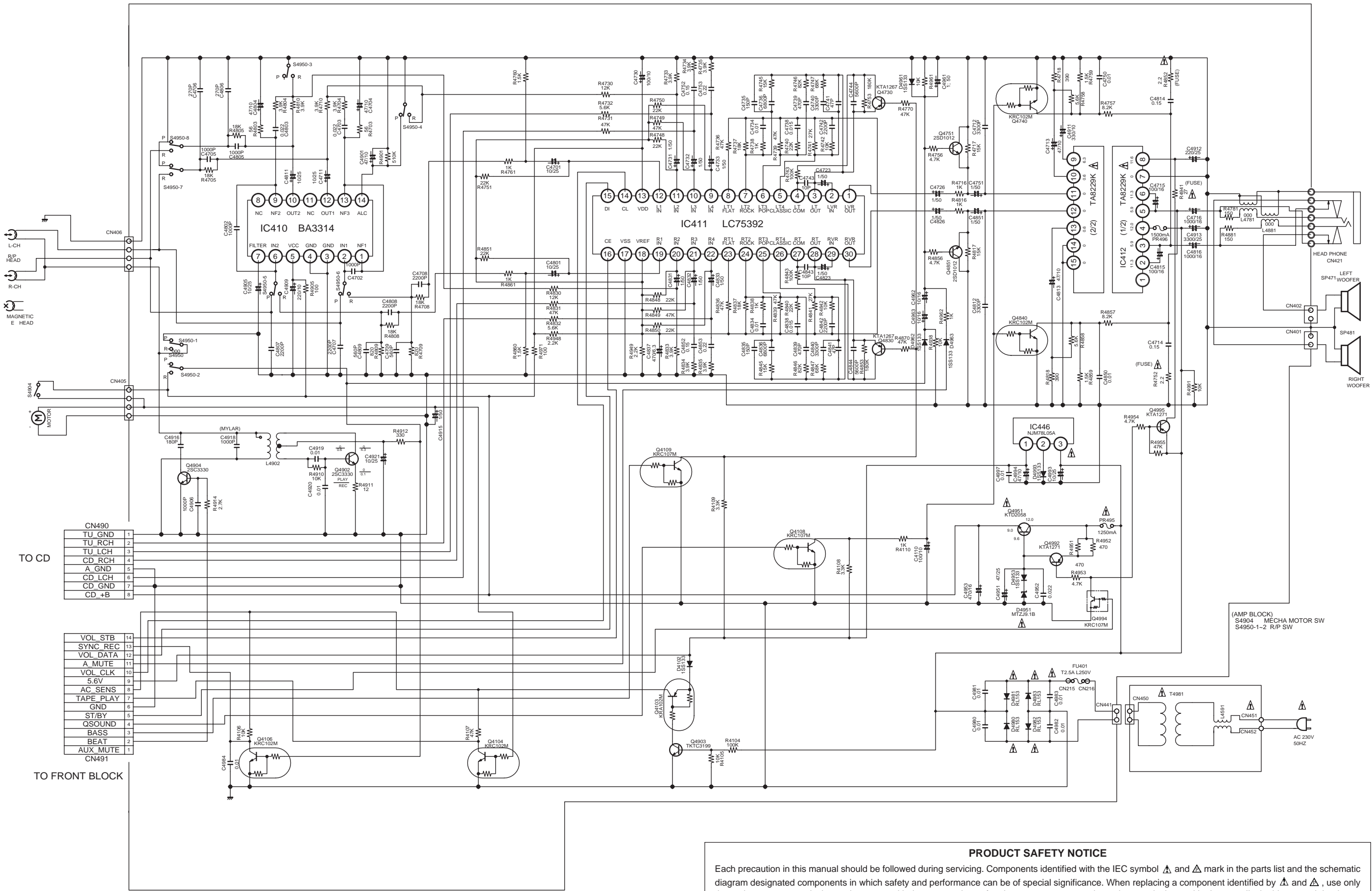
This is a basic schematic diagram.

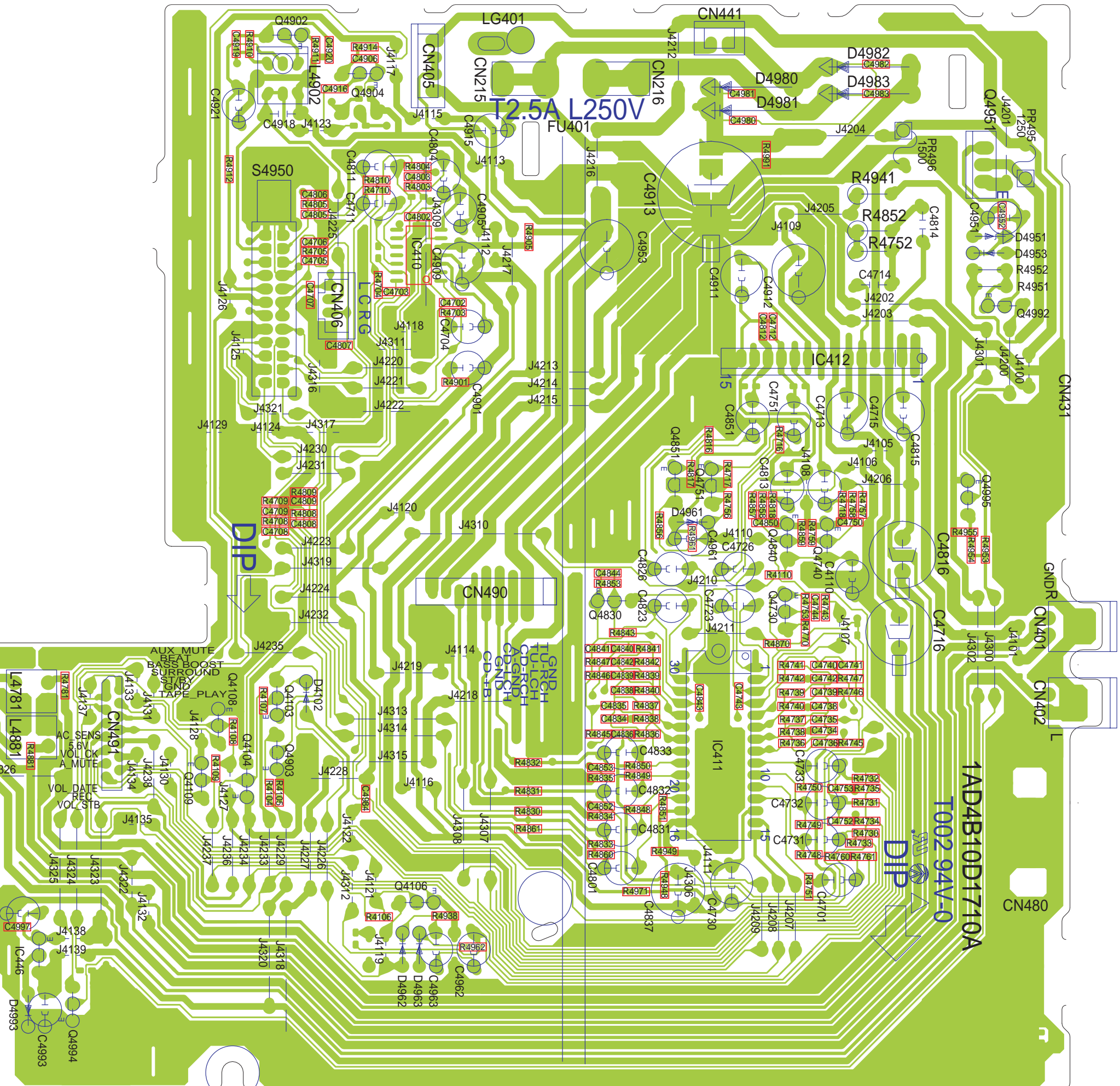


This is a basic wiring diagram.



SCHEMATIC DIAGRAM (AMPLIFIER)

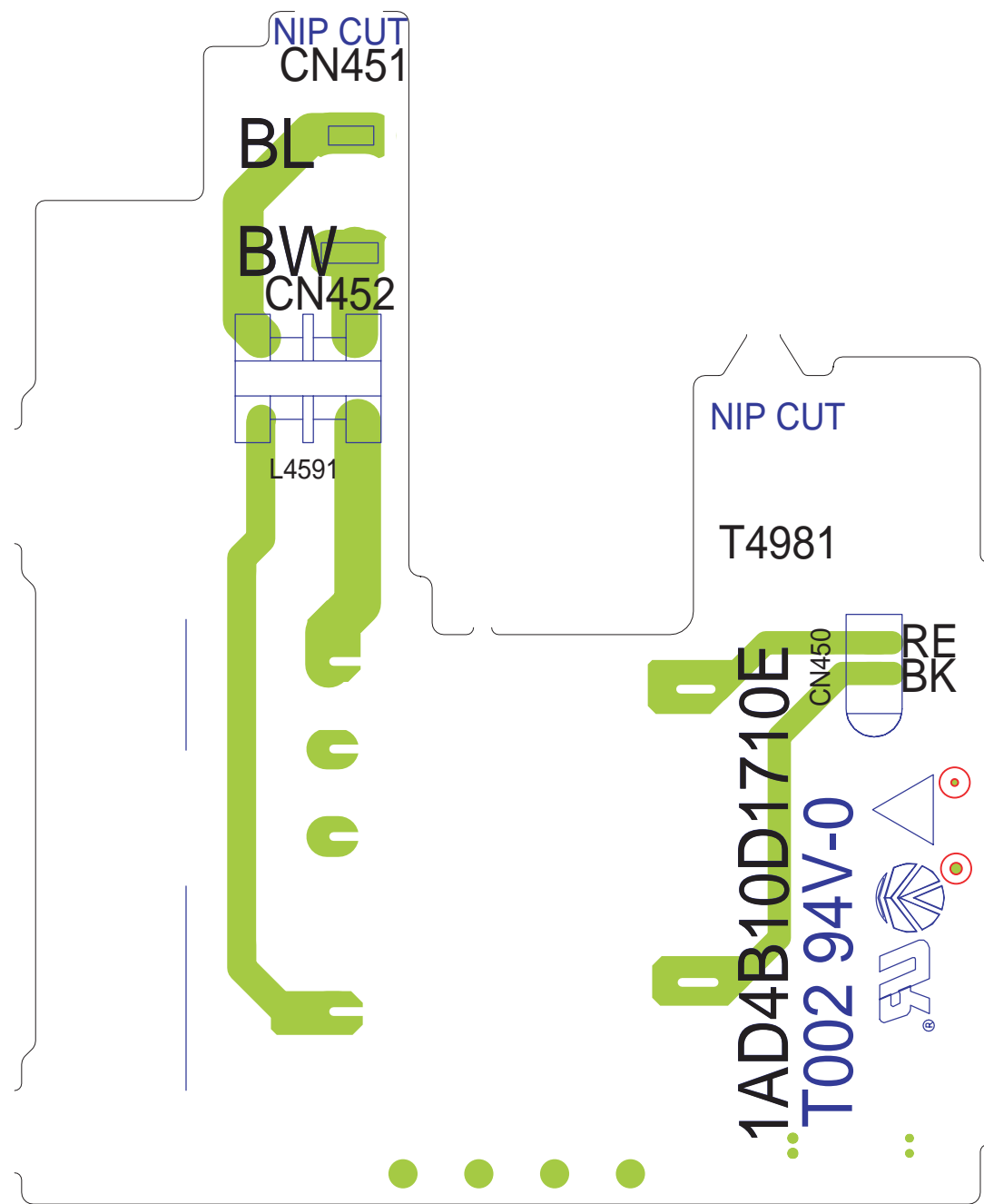




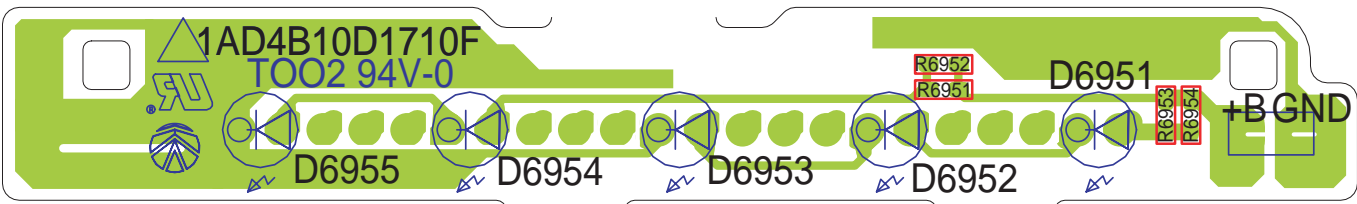
This is a basic wiring diagram.



POWER TRANSFORMER P.W. BOARD



LED P.W.BOARD



This is a basic wiring diagram.